

Hands-On Science, Technology,
Engineering, and Math



education

Minds-On STEM
2012

Greetings and welcome to the 2012 edition of the LEGO® Education catalog.

We're glad you're with us for another year of hands-on learning.

We work hard to ensure students have the best tools to enable learning across all grade levels, and we do this through partnerships with educators and through our team of educators on staff at LEGO Education. There are features on four innovative educators in this catalog. Their passion and energy provide a role model for hands-on education at all levels.

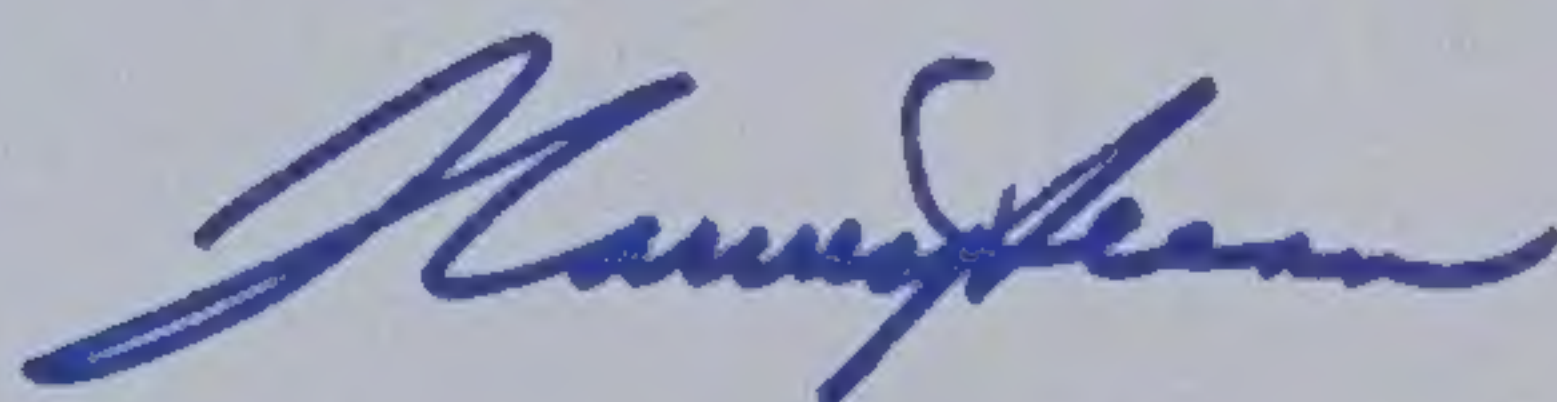
We also take this opportunity to welcome the LEGO Education Advisory Panel to the LEGO Education family. This is a group of 27 outstanding teachers from across the nation who help guide our development and decisions by lending their time and expertise. We are pleased to have them on board.

You'll see examples of educators' work throughout this catalog, and a few teacher features along the way as well. Teacher-requested and teacher-developed products include the new activity pack using the LEGO Education *Renewable Energy Set* (see page 19) with LEGO MINDSTORMS® Education (see page 16) for middle and high school and the exciting new *Simple Machines Set* (see page 52) for elementary.

In response to teacher input, we've also decided to change the name of one of our products. Those of you familiar with LEGO SERIOUS PLAY will be pleased to hear that we've changed the name to an education-focused title, *BuildToExpress*. Check it out on page 4.

Have a great year, and call us to share your story! We want to hear from you. E-mail us at LEGOsmart@LEGOeducation.us.

Sincerely,



Dr. Harvey Dean
CEO and former teacher



Are you LEGO® smart?

LEGO® Education offers unique solutions for educators who want to bring more innovation and creativity to their classroom.

Using our tools and hands-on teaching methods, students will learn through experience, collaborate with their classmates, and think creatively.

That's LEGO smart.



Simple Machines Set, see page 53



WeDo™ Resource Set, see page 9



LEGO® MINDSTORMS® and Renewable Energy
Activity Pack, see page 19

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Level Key

Early Learning – Ages 5-8
Intermediate – Ages 9-11
Middle School – Ages 12-14
High School – Ages 14-18



**CHOKING
HAZARD!**

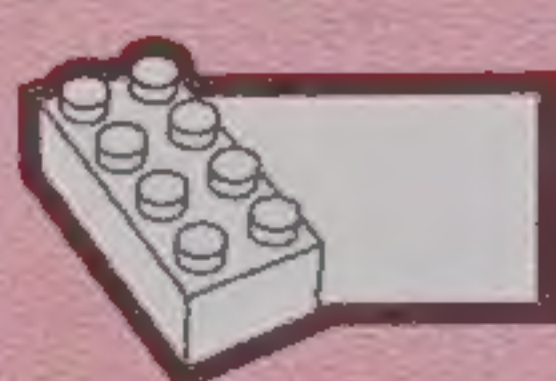
Products with this warning contain small parts, small balls, or marbles that could create a potential choking hazard. Not suitable for children under three years of age.

Key icons to look out for:



Storage

Bin included



Piece Count

Total number of elements

www

Web Resources

More information and resources at LEGOeducation.us



Professional Development

Get extra help from LEGO Education to get the most out of your resources.





A LEGO® Education course gives you:

- A chance to discover a fun and engaging way to teach curriculum subjects.
- An understanding of the LEGO® Education approach to teaching and how it can increase students' learning power.
- Access to effective tools and methods.
- The means to maximize your use of LEGO Education resources.
- A course taught by a certified trainer and tailored to meet your teaching needs.

Professional Development

At LEGO® Education we recognize that you might need some extra help and support to get the most out of your resources. This is why we have designed courses for teachers.

We believe in a facilitative approach to teaching. This enables students to take a more active role in their learning, and all our courses explore ways to enhance this teaching style. The courses provide participants with hands-on experience through practical workshops, information about ways to optimize classroom management of resources, and tools for curriculum planning.



Attending LEGO Education Academy was one of the most exciting things I have ever done as an educator. It was great to get firsthand knowledge about the products and the ways they can be implemented in the classroom. Having top-notch trainers who have experience and know how to help make you successful was the icing on the cake. Attending the LEGO Education Academy training had two impacts on me. First, it made me want to try other LEGO® Education products in my classroom. Second, it made me look and feel confident in what I was doing. This confidence was obvious to both my students and other teachers who observed my teaching with LEGO Education products. LEGO Education helps create the sparks needed to light the fires of imagination and intelligence in the minds of our future!

*James Jones, Classroom Teacher,
Timber Creek High School, Orlando, FL*



Workshops Offered Include:

- Early Simple Machines
- Simple Machines
- Machines and Mechanisms
- LEGO® Education WeDo™ Robotics
- LEGO MINDSTORMS® NXT Basic
- LEGO MINDSTORMS NXT Advanced with Data-logging
- LEGO MINDSTORMS NXT with TETRIX®
- Competition Training for Jr.FLL, FLL, and FTC
- LabVIEW™ for LEGO MINDSTORMS®
- ROBOTC®

Visit www.LEGOeducation.us/ProfessionalDevelopment for complete descriptions of all workshops listed above.

What to expect

All Academy facilitators are dedicated to a hands-on approach to learning and have completed an intensive training course where only the best receive official certification by LEGO Education. After you select a workshop, a LEGO® Education-certified facilitator will come to your location and help up to 20 teachers get the most out of their LEGO Education resources.

TM991550 Professional Development for 10 teachers—\$1,800*
(\$100 more for each additional teacher up to 20 teachers)

Don't see what you are looking for? All workshop agendas are customizable and can be tailored to fit individual customer needs. Call your local educational consultant to learn more; see pages 96-97 for listing.

*Price includes travel for the LEGO Education-certified facilitator.



**Represents Getting Started Packages
with Professional Development included.**





LEGO Education BuildToExpress

A LEGO® Way To Teach

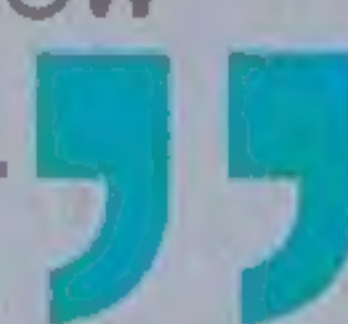
Professional Development from LEGO Education

Formerly known as LEGO® SERIOUS PLAY, LEGO Education BuildToExpress is a groundbreaking process that combines a facilitative teaching method with hands-on manipulatives. The result is a solution tailored for educators who are serious about developing 21st-century learners and creative problem solvers.

Appropriate for all students across many subject areas, BuildToExpress encourages educators to facilitate a deep learning experience, thereby enabling students to take a more active role in their learning. Grounded in the LEGO System for Learning, the BuildToExpress method can inspire student interest and involvement in the classroom.



I use BuildToExpress with my struggling students in math. Students create structures to represent how they are feeling about math that day. Building with LEGO is a fun way for students to think about their emotions and express them verbally. Once they address their attitudes, they show greater focus and attention later during math instruction.



Jennifer Rising
Elementary Classroom Teacher,
The Nueva School, Hillborough, CA





Bricks Empower Students to Own Their Learning

We use LEGO® Education WeDo™ Robotics and BuildToExpress™ to spark curiosity across all curriculum areas including literacy, science, and social studies. When using LEGO bricks in my classroom, I watch as my students are engaged and their creativity shines. Hayley said, **"It is fun because we build with our hands, watch with our eyes, and think with our minds."** Students are familiar with LEGO bricks, and the bricks empower students to own their learning. When working with LEGO bricks, students engage in hands-on, differentiated, and open-ended learning. Teachers become facilitators as students communicate with each other and work in teams. LEGO Education products prepare students for their future and, as Logan said, **"You can use your imagination."** I have used LEGO Education products in my classroom for three years, and the impact that it has on students and their learning is extraordinary!

BuildToExpress helps students build relationships and find their voice! In a very diverse classroom, ALL students have success with BuildToExpress, and LEGO bricks level the playing field. Students answer their building challenge at their own level and with endless possibilities. They are confident and show leadership when sharing their stories with others. Ethan loved BuildToExpress because **"there is no right or wrong answers and you think with your hands."** The communication skills that students acquire through the use of LEGO Education products are phenomenal. Evy was great at communicating through her LEGO model and said, **"It doesn't have to be fancy. When you build your model it can just be one brick. One brick can show a HUGE story."** Using LEGO bricks in my classroom has added a new depth and excitement to learning, not just for the students but for me as well!

*Erin Hardy, Elementary Classroom Teacher
East Richland Elementary School, Olney, IL*

Each One-day BuildToExpress™ Professional Development Workshop Covers:

Learning theory

- Discover how a process of reflection and dialogue helps cultivate a positive learning environment and achieve learning targets across the board.
- Learn how to awaken students' interest in given subjects.

Hands on

- Build your own metaphors and share your insights and experiences with participants.
- Experience the common language of BuildToExpress: the bricks.
- Examine how effective facilitation combined with LEGO® bricks enables everyone to be treated as equals and all opinions to be heard.

Tools for planning

- Explore ways to apply the method to your curricula programs.
- Practice planning your own BuildToExpress sessions.

Professional Development Starter Package

This offering includes one day of hands-on theory, practice, and training presented by a LEGO Education-certified facilitator. Each participant also receives a training course manual and one BuildToExpress *Expressions Kit*.

TM991676—\$2,500

Professional Development Shared Package

This offering includes one day of hands-on theory, practice, and training presented by a LEGO Education-certified facilitator. Each participant also receives a training course manual and 10 BuildToExpress *Expressions Kits*.

TM991678—\$6,200

BuildToExpress is also offered as a two-day workshop. Call your local educational consultant or visit us online, www.LEGOeducation.us/BuildToExpress, to learn more.

LEGO® Education WeDo™ Robotics

Bring creativity to your classroom with
LEGO Education WeDo robotics!

Designed for the elementary learner, WeDo™ Robotics is a cross-curricular set and series of theme-based activities. The activities cover content in the areas of math, science, technology, and engineering, as well as language arts, literacy, and social studies. Your students will build and program their robotic models to write stories, solve problems, and create innovative projects.



Start with ...

WeDo™ Robotics Construction Set



WeDo™ Software v.1.2 and Activity Pack



Add Curriculum ...

WeDo™ Robotics Extension Activities



Add Hardware ...

WeDo™ Resource Set



Robotics For All Ages:

LEGO® Education delivers the latest in robotics curriculum at all age levels. Teachers from elementary schools to college campuses can integrate materials that prepare students for a lifetime of learning.

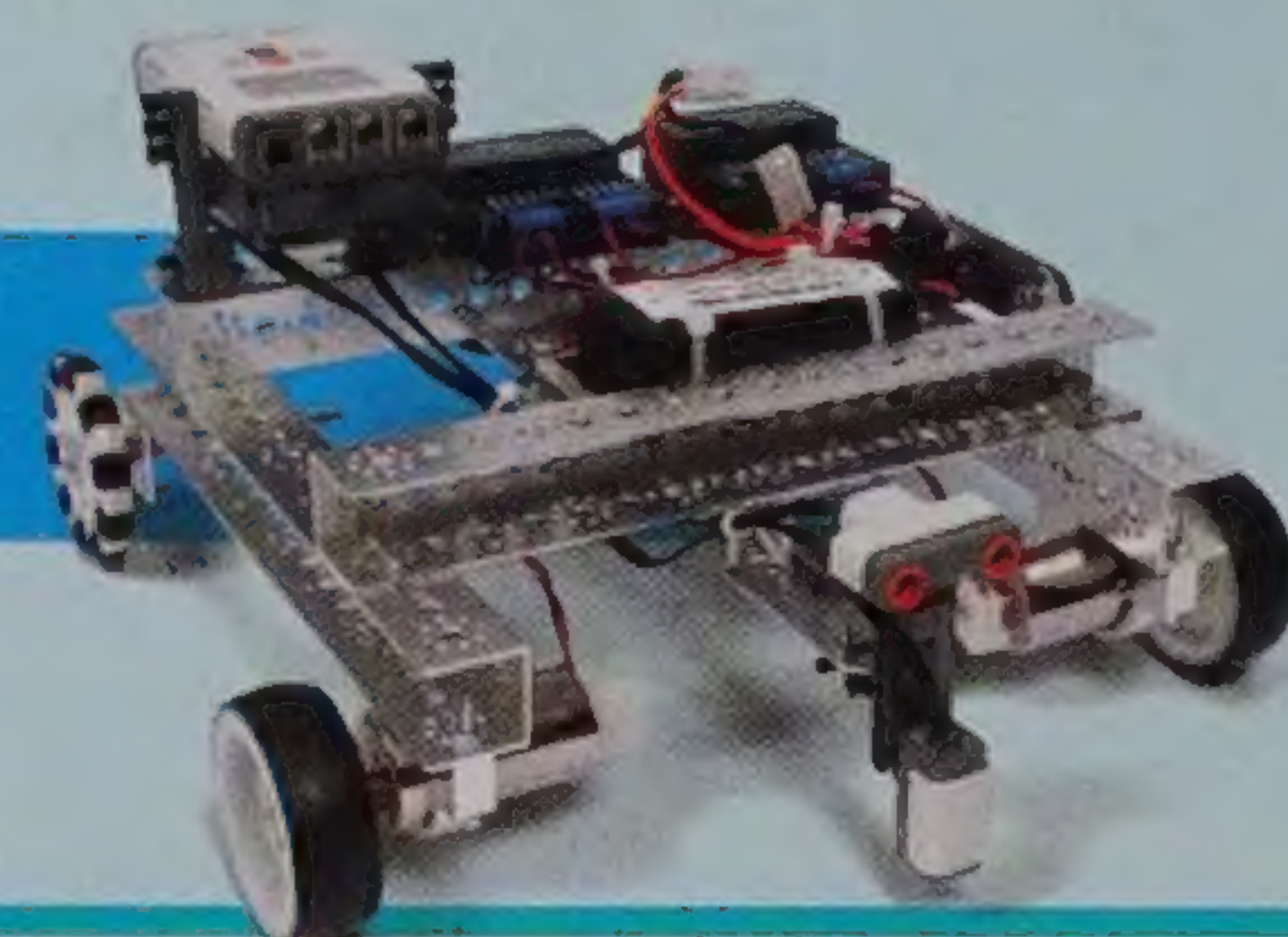
LEGO® Education WeDo™
Robotics
Grades 2-5



LEGO® MINDSTORMS®
Education
Grades 5+



LEGO® MINDSTORMS®
Education with TETRIX®
Grades 9+





Bringing Teaching and Learning Concepts to a New Level

LEGO® Education WeDo™ Robotics is a powerful robotics system when it comes to students applying content area learning. With WeDo Robotics, student learning is significantly more meaningful and engaging. I use the sets to teach math and science concepts, but they are also easily integrated into English language arts. Two of my students did a presentation on Amelia Earhart using WeDo sets. They built a model of an airplane programmed to show Amelia's travels and eventual fate through both motion and sound effect code along with programmed background and text displays. This shows how WeDo Robotics provides an opportunity to bring teaching and learning concepts to a new level.

Programming with WeDo Robotics enables me to teach in-depth lessons while students are enthusiastically engaged in very lively class discussions, predicting programming outcomes and solving for the programming needed to accomplish a specific task. After being instructed on the WeDo Getting Started Lessons, students not only know how to program, but like real engineers, they know how to program efficiently. One challenge I give to students is to build a model of a car programmed to start at rest, accelerate to maximum speed, and decelerate back to rest. This is done fairly easily with many lines of code (programming blocks) but can be more efficiently programmed

by using the repeat programming block – something the students have a true appreciation for when problem solving the challenge of programming efficiently! WeDo Robotics provides a real-time programming environment, enabling students to see under the hood as they wait for their model to execute the code on the screen – providing even more comprehensive teaching and learning opportunities.

WeDo Robotics provides meaningful connections and enables a seamless transition to LEGO MINDSTORMS® NXT programming. This is shown through a catapult challenge: the building of a self-loading catapult equipped with a motion sensor. When someone walks by, the model releases a mini-marshmallow and then reloads itself (for the next unsuspecting target!). The students first learn to do this with WeDo Robotics and thoroughly enjoy solving the same challenge with the NXT program. It is always exciting to see students learning at higher levels and transferring their learning from WeDo Robotics to NXT.

The sky is the limit for in-depth learning and programming with WeDo Robotics!

*Sue Sorrentino, Elementary School Teacher,
Byron Bergen Elementary School, Bergen, NY*

WeDo™ Learning Targets

Science

- Working with simple machines: gears, levers, and pulleys
- Transmission of motion

Technology

- Programming
- Using software media
- Designing and creating a working model

Mathematics

- Measuring time and distance
- Adding, subtracting, multiplying, dividing, estimating, and randomness
- Using variables

Language and Literacy

- Narrative and journalistic writing
- Storytelling, explaining, interviewing, and interpreting



Get young students excited about science and engineering with Jr. FIRST® LEGO® league. Learn more at usfirst.org.

LEGO® Education WeDo™ Robotics Construction Set

The LEGO® Education WeDo™ Robotics Construction Set is an easy-to-use set that introduces young students to STEM, literacy, and social studies through robotics when combined with the LEGO Education WeDo Robotics Software v.1.2 and Activity Pack (900097).

Key Learning Targets:

- Working with simple machines: gears, levers, and pulleys
- Designing and creating a working model
- Creative problem solving
- Teamwork

Ages 7+

TM979580—\$129.95

TM991570 2-Pack—\$239.95 **Save \$19**

TM991480 4-Pack—\$479.95 **Save \$39**

TM991571 6-Pack—\$719.95 **Save \$59**

TM991481 8-Pack—\$959.95 **Save \$79**

TM991572 10-Pack—\$1,199.95 **Save \$99**

TM991482 12-Pack—\$1,439.95 **Save \$119**



LEGO® Education WeDo™ Robotics Software SYSTEM REQUIREMENTS

Minimum Requirement Specifications for PC:

- Intel® Pentium® processor or compatible, 800 MHz minimum
- Windows XP, Vista, or Windows 7 with latest service pack
- 512 MB of RAM minimum
- 150 MB of available hard-disk space
- DVD drive

Minimum Requirement Specifications for Mac:

- Apple MacOS X v.10.5 or 10.6
- Intel processor
- 512 MB of RAM minimum
- 150 MB of available hard-disk space
- DVD drive

Teacher's Guide included as PDF.



[www](http://www.legoeducation.us)

LEGO® Education WeDo™ Software v.1.2 and Activity Pack

Easy-to-use software and 12 theme-based activities provide up to 24 hours of instruction and project-based learning in one package! The drag-and-drop software, powered by LabVIEW, is icon based and provides an intuitive programming environment. Features the digital Getting Started Guide with building tips and programming examples. Designed for use with LEGO® Education WeDo™ Robotics Construction Set.

Key Learning Targets:

- Programming
- Using software media
- Measuring time and distance
- Adding, subtracting, multiplying, dividing, estimating, and randomness
- Transmission of motion

TM900097—\$89.95

TM991750 Site License—\$299.95



Simple drag-and-drop software is designed to be age-appropriate.

NEW



www

LEGO® Education WeDo™ Resource Set

Combine with the LEGO® Education WeDo™ Robotics Construction Set (979580) to build four new models: Ferris Wheel, Crane, Car, or House.

- Features lots of extra and new elements
- Build and program new and bigger models
- Free building instructions and programming samples available for download

Ages 7+

TM979585—\$49.95

TM991874 2-Pack—\$96.95 **Save \$2**

TM991875 4-Pack—\$194.95 **Save \$4**

TM991876 6-Pack—\$291.95 **Save \$7**

TM991877 8-Pack—\$386.95 **Save \$12**

TM991878 10-Pack—\$481.95 **Save \$17**

TM991879 12-Pack—\$574.95 **Save \$24**



1x TM979580 and 1x TM979585 are needed to build either the Crane or the Ferris Wheel

Models built with the WeDo™ Construction Set and the WeDo Resource Set.

2x TM979580 and 1x TM979585 are needed to build both the House and the Car at the same time

LEGO® Education WeDo™ Robotics Extension Activity Packs

LEGO® Education WeDo™ Robotics Extension Activities

LEGO® Education WeDo™ Robotics Extension Activity Packs serve as an addition to the original WeDo Activity Pack to aid elementary school educators in creating more engaging learning experiences in science, literacy, math, and social studies. Using the LEGO Education WeDo hardware and software in combination with these activities, educators can easily create rich, cross-curricular lessons to inspire critical thinking, problem solving, and creativity. Each activity pack is designed for use with the WeDo Construction Set, Software, and Activity Pack and include optional extension activities using the Sceneries Set (779385). Bundle includes:

- All four LEGO® Education WeDo™ Robotics Extension Activity Packs: Wild Animals, Adventure Stories, Amazing Mechanisms, and Play Soccer.
- More than 144 hours of instruction across math, science, literacy, and social studies.
- Learning grid mapping activities to key standards and learning objectives.
- Lesson-at-a-Glance overview, detailed lesson plans, worksheets, and an assessment rubric.
- An interactive CD-ROM with a series of instructional WeDo programming videos to help your students master the basics of the WeDo programming software.
- PDFs of each lesson broken down by WeDo model with printable worksheets, tracking sheets, assessment rubrics, and more.

Ages 7+
TM991837—\$179.95

Go online for individual extension activity packs.



Play Soccer WeDo™ Extension Activity Pack



Amazing Mechanisms WeDo™ Extension Activity Pack



Wild Animals WeDo™ Extension Activity Pack



Adventure Stories WeDo™ Extension Activity Pack



Classroom Activities for the Busy Teacher: Exploring Our Coral Reefs

This book incorporates ideas for a research project and creative writing opportunity based around the theme "Exploring Our Coral Reefs." Designed for use with both the LEGO® WeDo™ Construction Set and Software and the LEGO Animals Set. Includes:

- Topic-based worksheets
- Full-color building instructions for four "Exploring Our Coral Reefs"-themed models: scuba diver, manta ray, tropical fish, and sea turtle
- Sample program for each model

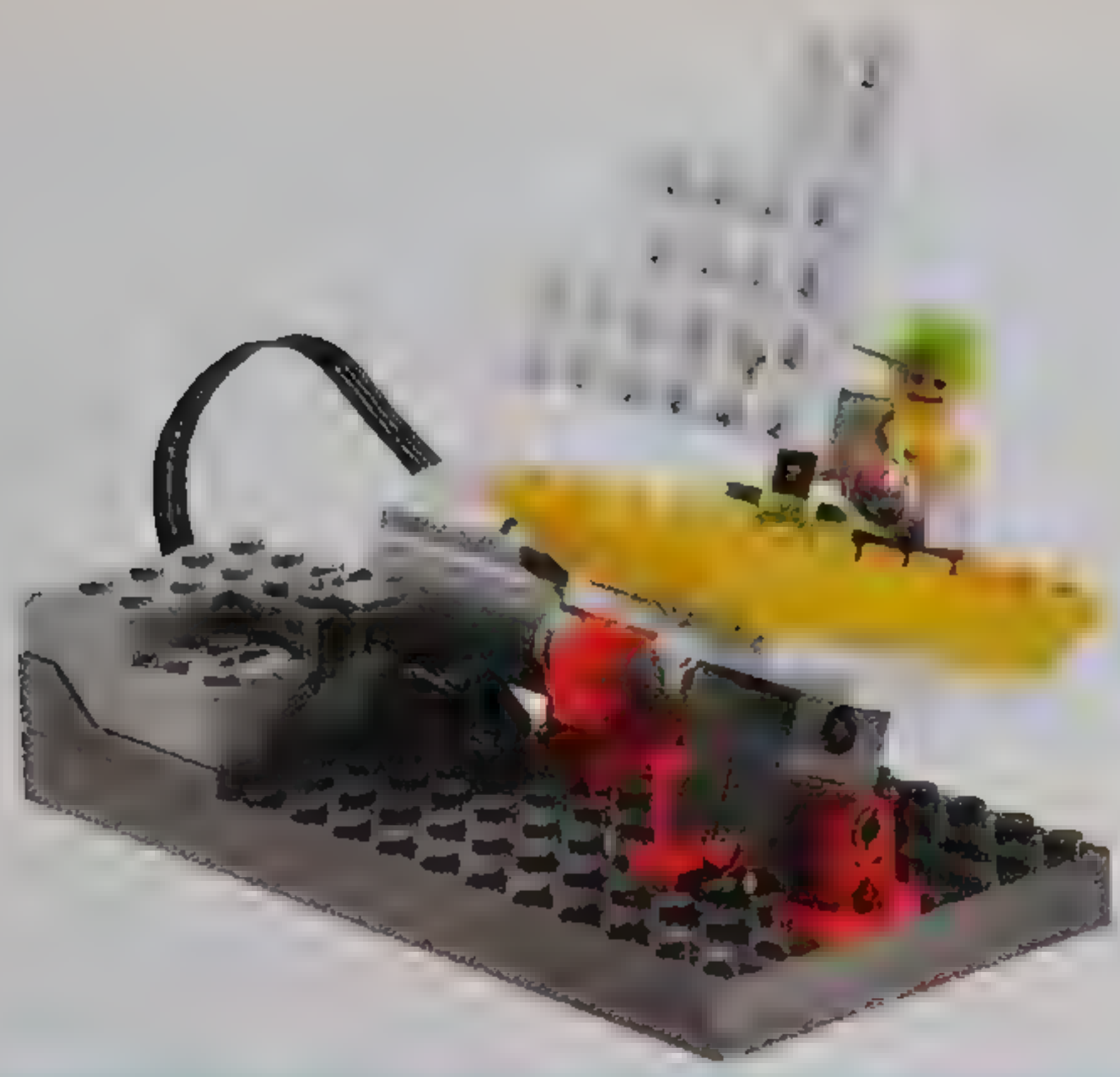
Paperback, 54 pages.

Ages 7+

TM991893—\$22.95



LEGO® Education WeDo™



TM991484 LEGO® Education WeDo™ Robotics - Getting Started Package - \$1,708.95

A
\$1,859.35
value!

LEGO® Education WeDo™ Robotics Construction Set

LEGO® Education WeDo™ Robotics Software v.1.2 and Activity Pack and Site License



Ages 7+

 TM991792 LEGO® Education WeDo™ Robotics - Getting Started Package with Professional Development - \$3,527.95



TM991838 LEGO® Education WeDo™ Robotics - Getting Started II Package - \$1,906.95

A
\$2,039.30
value!

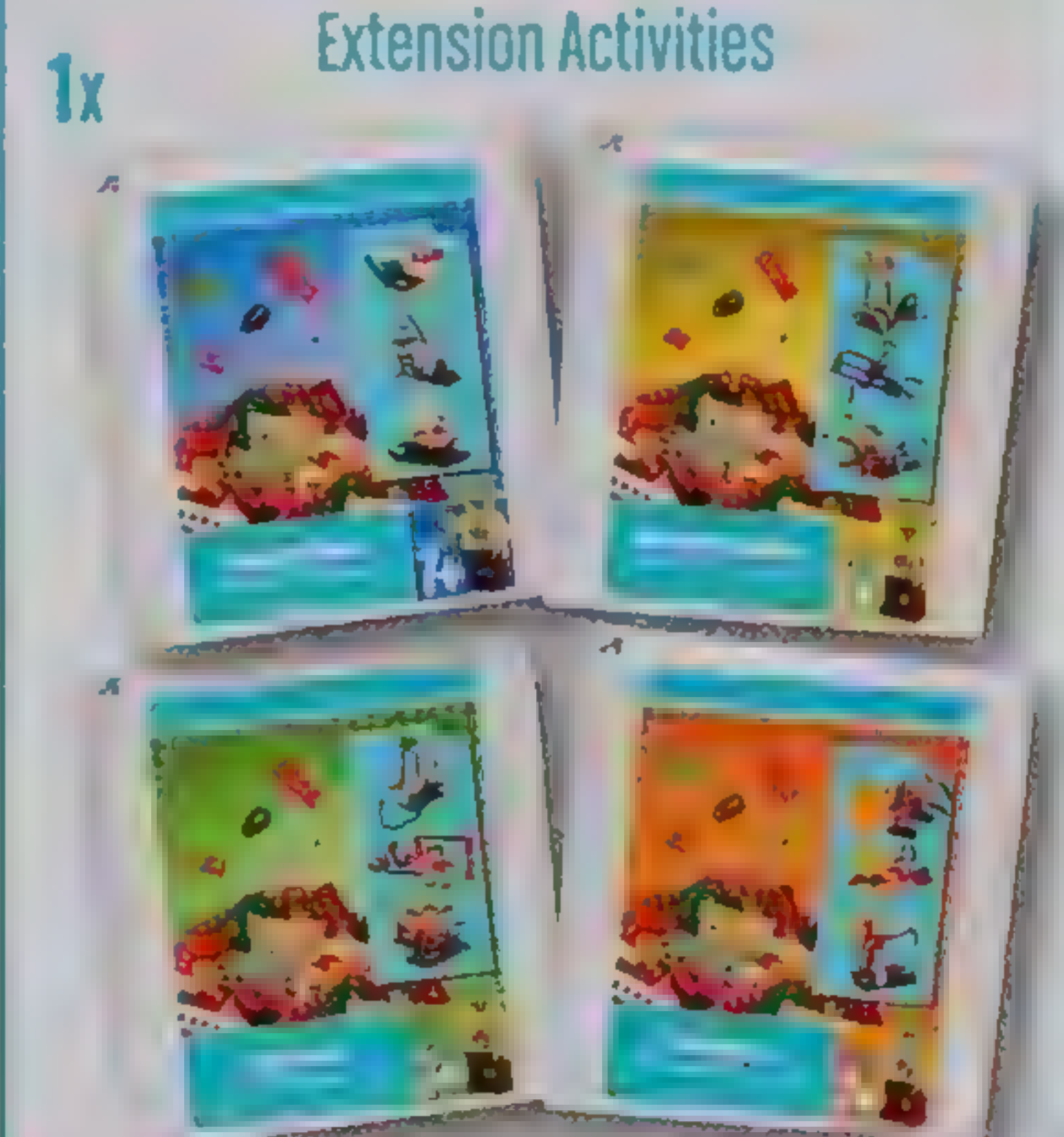
LEGO® Education WeDo™ Robotics Construction Set


LEGO® Education WeDo™ Robotics Software v.1.2 and Activity Pack and Site License

LEGO® Education WeDo™ Robotics Extension Activities



Ages 7+



 TM991839 LEGO® Education WeDo™ Robotics - Getting Started II Package with Professional Development - \$3,706.95

Sceneries Set

Give your students even more opportunities to design, build, and program exciting models! Combine with the LEGO® Education WeDo™ Robotics Construction Sets to build and program a galloping horse or roaring dragon, or use your own imagination. Includes basic bricks in a variety of colors and a number of special elements.

Ages 4+

TM779385—\$84.95 ⚠

TM991720 2-Pack—\$166.95 **Save \$2**

TM991721 4-Pack—\$332.95 **Save \$6**

TM991722 6-Pack—\$496.95 **Save \$12**

TM991723 8-Pack—\$658.95 **Save \$20**

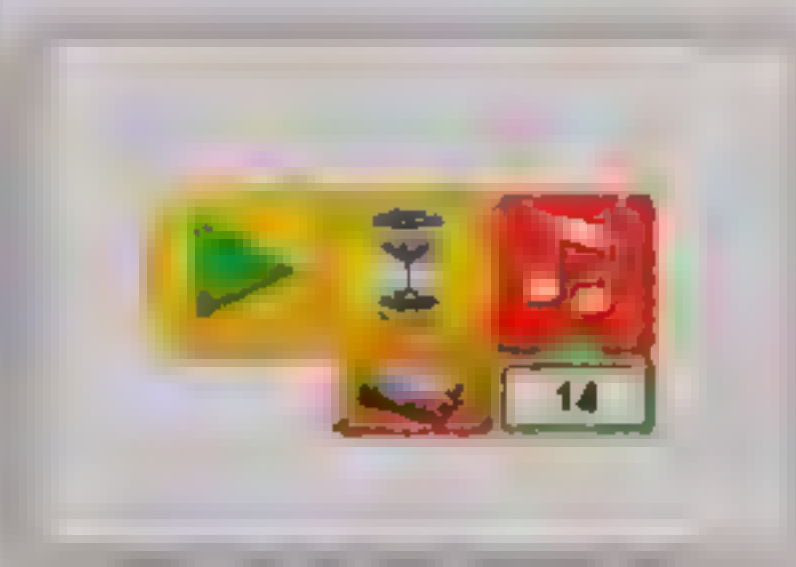
TM991724 10-Pack—\$819.95 **Save \$29**

TM991725 12-Pack—\$978.95 **Save \$40**

Programming Examples



Galloping Horse



Roaring Dragon



For building instructions and programming examples utilizing the WeDo Construction set and Sceneries set, visit LEGOeducation.us/779385.



WeDo™ Robotics Motion Sensor

Detects objects within a 15 cm range and is automatically detected by the WeDo™ Software.

Ages 7+

TM979583—\$19.95

LEGO® USB Hub

The two-port hub controls motors and sensors, transmits power and data to and from the computer, and is automatically detected by the WeDo™ Software when connected to the computer.

Ages 7+

TM979581—\$44.95

Power Functions M-Motor

Use the Power Functions M-Motor with the new power function connector to bring your LEGO® models to life.

Ages 7+

TM978883—\$7.95

Power Functions Light

Is supported by LEGO® Education WeDo™ Robotics Software v.1.2 and Activity Pack. Now you can add bright LED lights to your models to create glowing eyes, illuminated headlights, and much more!

Ages 7+

TM778870—\$6.95

WeDo™ Robotics Tilt Sensor

Detects six different positions and is automatically detected by the WeDo™ Software.

Ages 7+

TM979584—\$19.95



CHOKING HAZARD!

See page 1 for more information.

Affordable, Reliable Technology

LEGO® Education and Intel work together to:

- Ensure the LEGO Education programming software functions on the Intel® Classmate PCs.
- Enable schools to pair cost-effective computers with LEGO Education robotics hardware.
- Support schools in their quest for access to the latest technology and engaging learning tools.



Intel® Convertible PC

Intel®-powered Convertible Classmate PCs include practical, education-oriented features that improve the learning experience for students, parents, teachers, and schools.

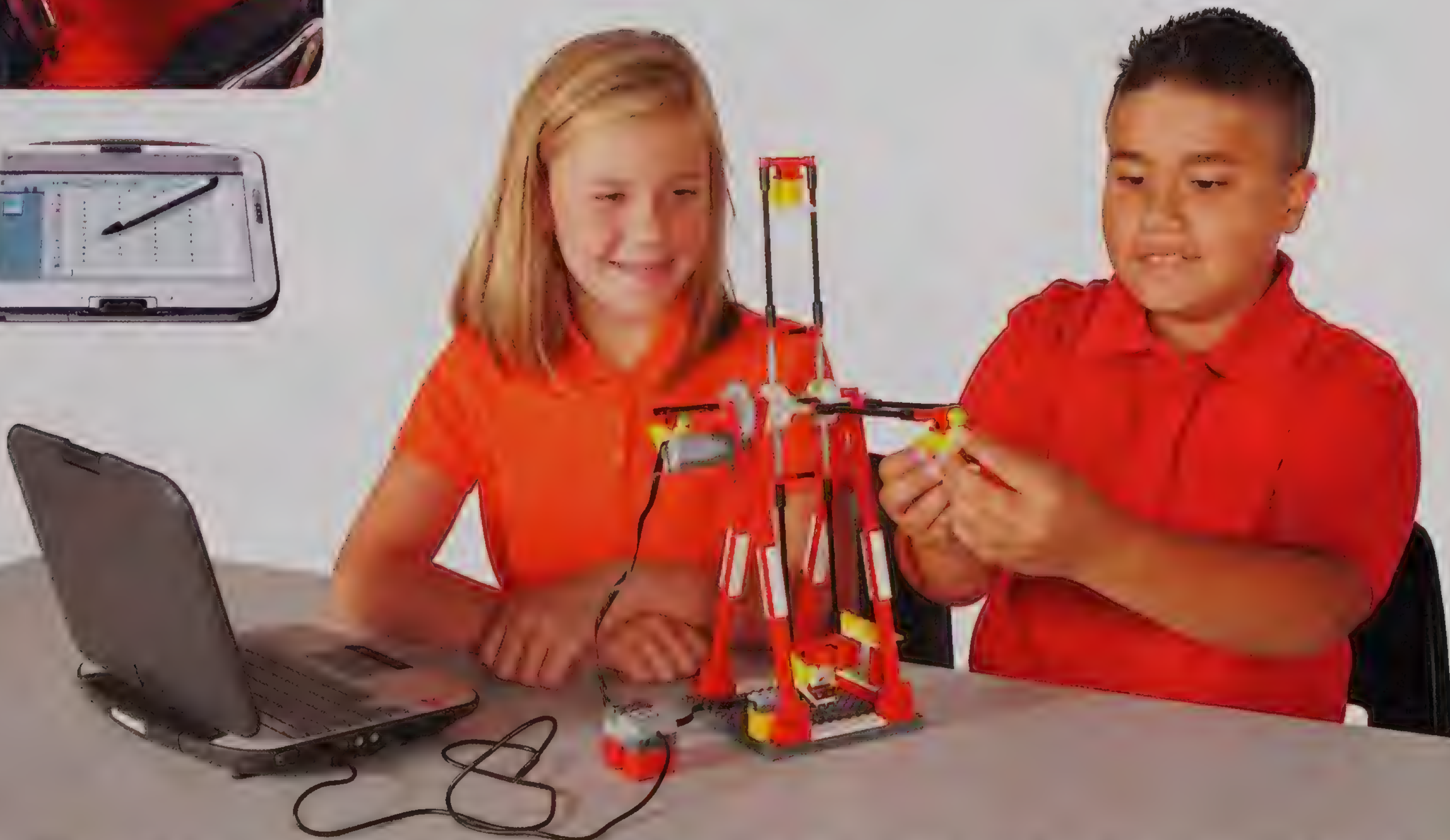


- Compatible with LEGO® MINDSTORMS® Education NXT Software and WeDo™ Robotics Software and Activity Pack
- Dual mode of use for students – tablet mode and traditional laptop mode – adjusts with changing needs in the classroom
- When open like a traditional laptop, the screen swivels 180 degrees for sharing with peers and teachers
- Touch screen and advanced palm-resting technology promote new models of interaction for children
- Enables writing or drawing directly on the screen in a natural way

TM991747 Intel® Convertible PC with Windows 7 Starter—\$539

TM991748 Intel® Convertible PC with Windows 7 Home—\$599

TM991696 Intel® Convertible PC with Windows 7 Pro—\$619



For quantities more than 100 call 800-362-4308. Please allow 2-4 weeks for delivery. System requirements online.

LEGO® MINDSTORMS® Education

Limited only by your imagination

LEGO® MINDSTORMS® Education NXT helps classroom teachers bring the fun of robotics into middle school and high school classrooms.

With LEGO MINDSTORMS Education, you convert your classroom into a hands-on robotics laboratory! Your students will model real-life mechanisms and use creativity, logic, and problem-solving skills while learning key STEM concepts.



Start with . . .

LEGO® MINDSTORMS® Education NXT Base Set



LEGO® MINDSTORMS® Education Software



Add Curriculum . . .

Green City, Renewable Energy Activity Pack, and Carnegie Mellon University Curricula



Add Hardware . . .

Resource Set, Renewable Energy Add-On, and Green City



Robotics For All Ages:

LEGO® Education delivers the latest in robotics curriculum at all age levels. Teachers from elementary schools to college campuses can integrate materials that prepare students for a lifetime of learning.

LEGO® Education WeDo™
Robotics

Grades 2-5



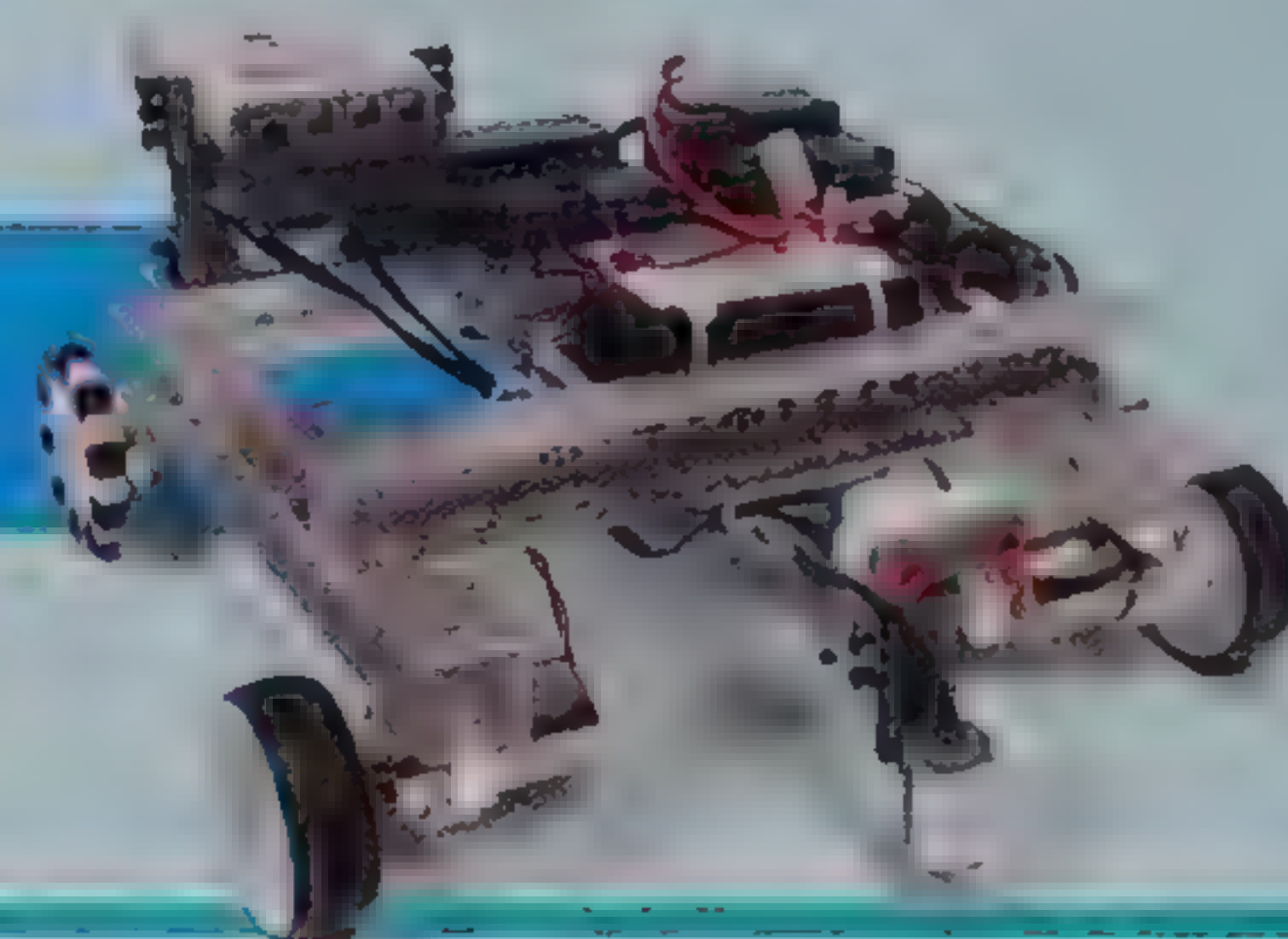
LEGO® MINDSTORMS®
Education

Grades 6-12



LEGO® MINDSTORMS®
Education with TETRIX®

Grades 9+





LEGO Education Products are Self-Motivational

“LEGO® Education products are fun!” When students think of using LEGO, it brings back all kinds of good feelings. The students think of the work as play, which allows them to participate more naturally and is the best way for them to learn intrinsically. When lessons appear as fun projects, the work is no longer viewed as computer programming or engineering.

“LEGO Education products are also self-motivational.” Oftentimes the success of LEGO Education products is exemplified by the students themselves. One particular student grew tremendously through the use of the NXT. As a sixth grader, he was very shy and reserved and didn't enjoy working with other students. Year after year, we worked

together with NXT in our afterschool program. As an eighth grader, he surprised everyone while he was working on his robot one afternoon. A new student had joined the program and was working on his own robot. From the other side of the room he said to the new student, **“Oh, do you want to learn how to do programming? Come on over and I'll teach you!”** This evolution from being shy and reserved to becoming a quiet leader was only made possible by the hands-on learning approach that is provided by LEGO Education.

*Paul Keeney, Classroom Teacher,
Oak View Middle School, Andover, MN*

STEM Learning Targets

Science

- Controlling speed and power using a motor.
- Working with gear ratios.
- Using data from specialized sensors such as rotation, sound, light, ultrasonic, and touch.

Technology

- Programming and controlling input and output devices.
- Using wireless communication.

Engineering

- Brainstorming solutions.
- Choosing a solution, building it, testing it, evaluating it, and revising it.

Mathematics

- Using data involving distance, time, turning angle, degrees of rotation, sound volume, reflected and ambient light, and gear ratios.
- Converting between decimals and fractions and between metric and customary units.
- Practicing applied math.



Excite your students' minds with **FIRST®** LEGO League! Learn more at usfirst.org.



LEGO® MINDSTORMS® Education NXT Base Set

This set enables students to build and program real-life robotic solutions. Includes 437 elements including the programmable *NXT Brick*; three interactive servo motors; ultrasonic, sound, light, and two touch sensors; a rechargeable DC battery; a DC charger; connecting cables; and full-color building instructions.

- Provides cross-curricular opportunities in science, technology, engineering, and math
- Allows for creativity in design
- Enables students to explore the world of engineering by building complex control systems

Key Learning Targets:

- Brainstorm solutions
- Teamwork
- Work with gear ratio

LEGO® MINDSTORMS® Education *NXT Software v2.1* sold separately.

Ages 8+

TM979797—\$279.95

TM991413 2-Pack—\$551.95 **Save \$7**

TM991412 4-Pack—\$1,097.95 **Save \$21**

TM991411 6-Pack—\$1,637.95 **Save \$41**

TM991410 8-Pack—\$2,172.95 **Save \$66**

TM991409 10-Pack—\$2,701.95 **Save \$97**

TM991408 12-Pack—\$3,225.95 **Save \$133**

NXT Intelligent Brick Accessories

Rechargeable Battery DC: Provides an alternative to normal AA batteries. Estimated recharge time 4-5 hours. Use the DC Charger (778887) to charge.

Touch Sensor: Can be set to be activated when touched, bumped, or released.

NXT Sound Sensor: Detects noise levels in the room.

NXT Light Sensor: Enables the construction of a robot that will follow a line by monitoring ambient and reflected light.

Lamps: Can be programmed to give a model eyes or to create a traffic light.

3 Interactive Servo Motors: These motors offer precise control through built-in rotation sensors.

NXT Brick: Is the brain of the system, where motors and sensors can be attached and controlled.

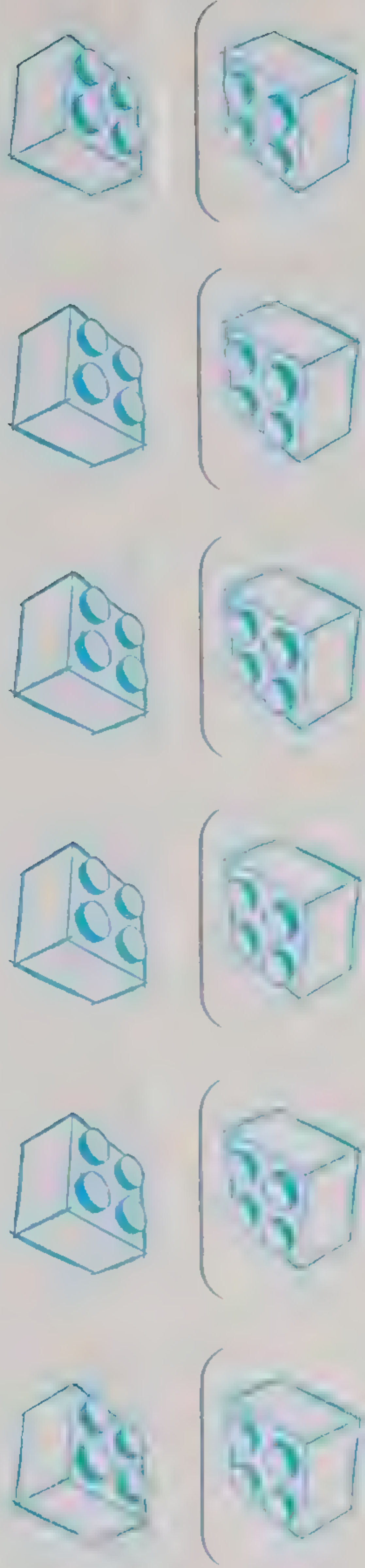
Ultrasonic Sensor: Can detect objects up to a range of 2.5 m.



Use these Post-it® flags to mark the pages of the items you like!

LEGOeducation.us • Toll-free 800-362-4308

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WWW

LEGO® MINDSTORMS® Education NXT Software 2.1



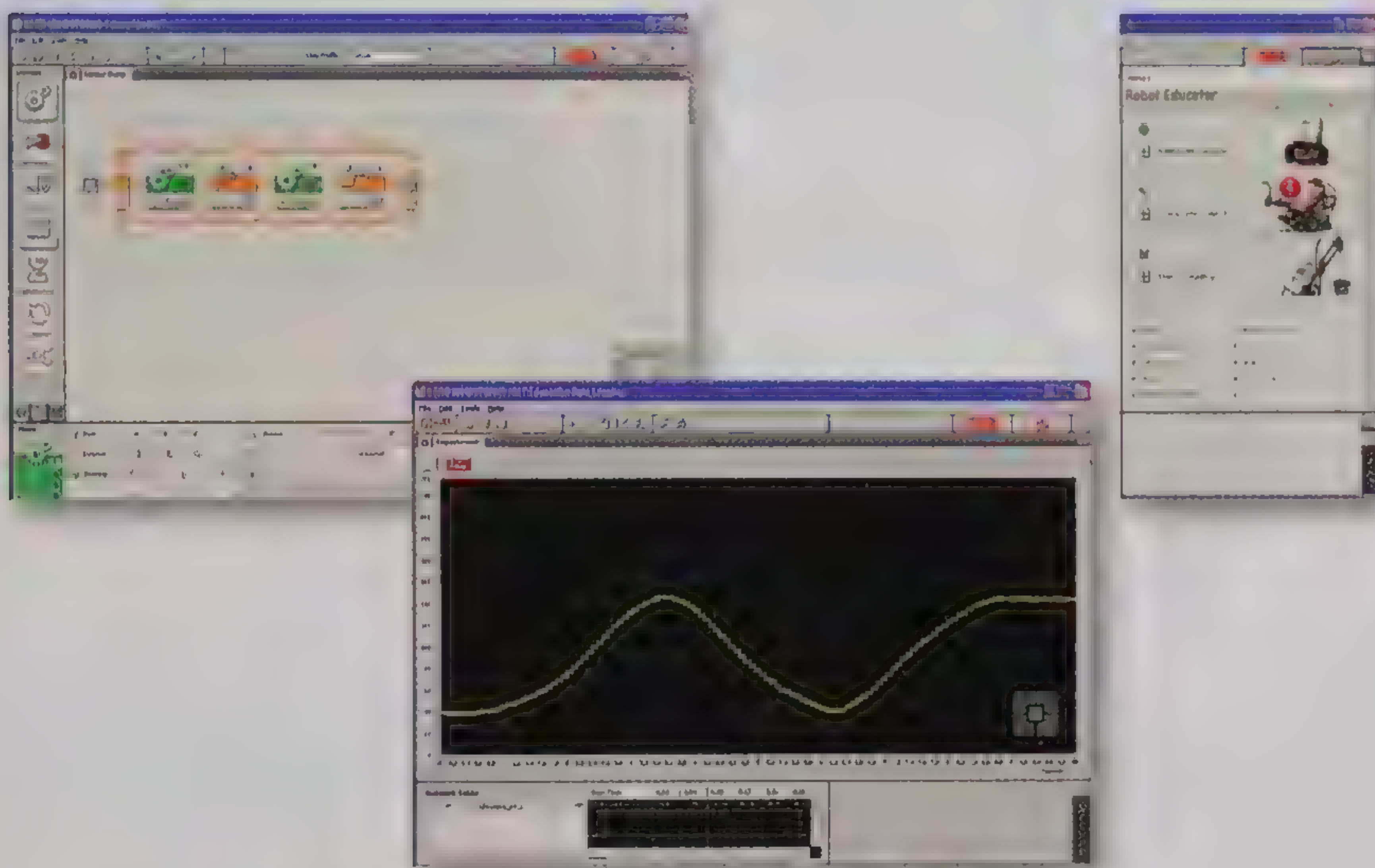
This powerful, easy-to-use software for programming and data logging is icon based and incorporates Robot Educator, a step-by-step guide with 46 tutorials, from beginner to advanced levels. Data-logging functionalities, including a graph viewer, make it easy to collect and analyze data from sensors. The software incorporates a comprehensive digital user manual. The software is Mac OS X, Windows XP, Vista, and 7 compatible.

Key Learning Targets:

- Using input and output devices and producing a simple set of sequential instructions linking cause and effect
- Using the scientific inquiry process when gathering and analyzing data sets
- Integrating math and science using physical constants, units of measurement, coordinate systems, min. max, mean, and linear formulas

Ages 8+

TM900080—\$79.95



LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

The site license allows for the installation of the software on all computers at a single school or institution.

TM991515—\$339.95



For building instructions and
programming examples
for nine cool models,
visit LEGOeducation.us/979695.

LEGO® MINDSTORMS® Education NXT 2.1 Software SYSTEM REQUIREMENTS

Microsoft Windows®:

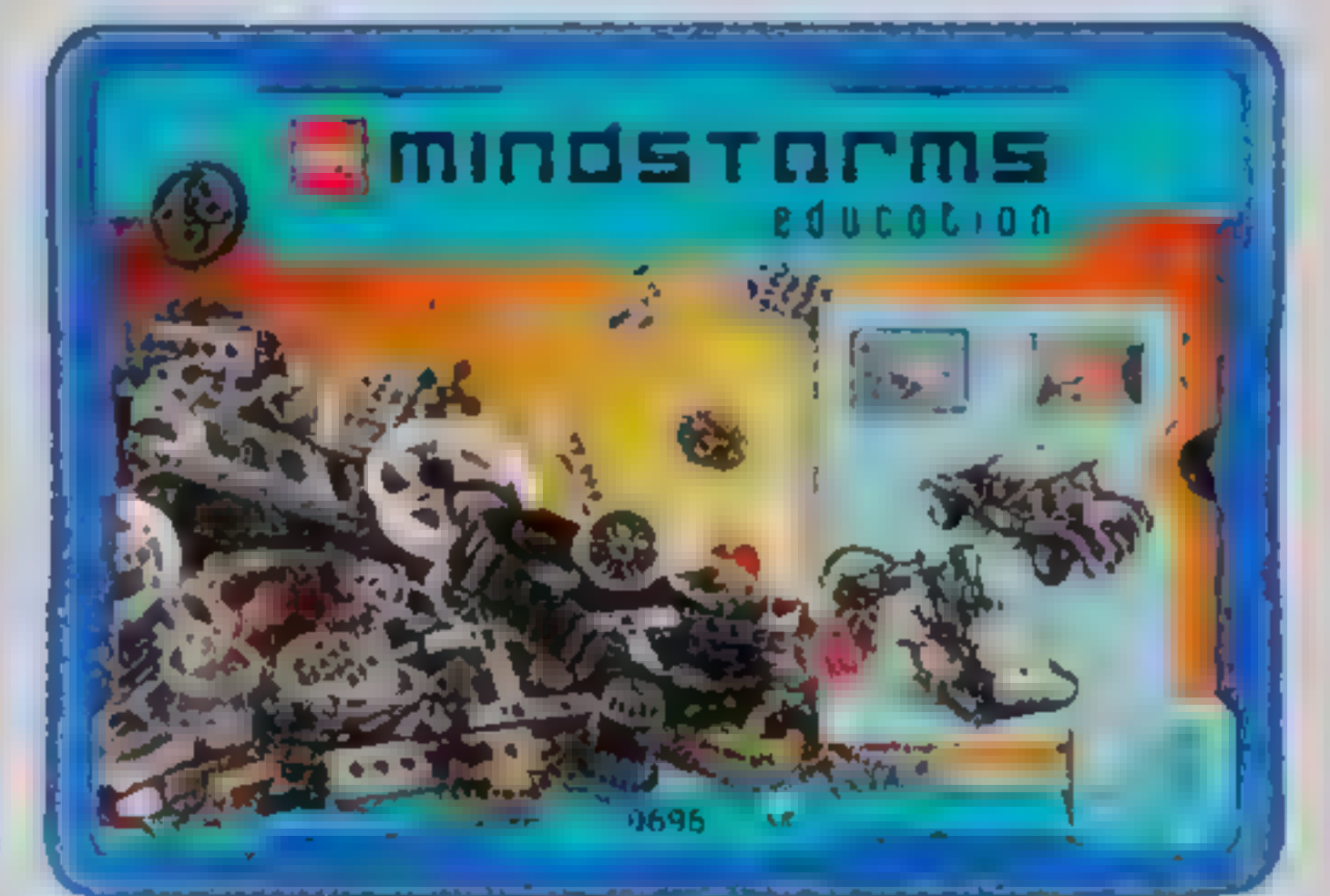
- Windows XP, Vista, or Windows 7 with the latest service packs
- Intel® Pentium® processors or compatible, 1 GHz or better recommended
- CD-ROM drive
- 512 MB RAM
- At least 700 MB of available hard-disk space
- XGA display (1024 x 768)
- 1 available USB port

Apple Macintosh®:

- Mac OS 10.4, 10.5, or 10.6 with the latest service packs
- Power PC® G3, G4, or G5 processors, 600 MHz minimum (1.3 GHz or better recommended)
- Or Mac systems with the Intel® Processor®
- DVD drive
- 512 MB RAM
- At least 700 MB of available hard-disk space
- XGA display (1024 x 768)
- 1 available USB port



LEGO® MINDSTORMS® Education Resource Set



This updated set features 817 elements that enable you to build and program LEGO® MINDSTORMS® Education robots with even more functions than ever before. Includes plenty of special elements such as belts, unique connectors, a worm gear, and structural elements, as well as other LEGO elements such as beams, axles, and connectors.

Key Benefits:

- Includes ample special elements: belts, worm gear, structural elements
- Serves as a supplemental kit to the LEGO MINDSTORMS Education NXT set
- Free downloadable building instructions and programming examples online for nine cool models: grand four-belt rover, belt-driven color sorter, robot arm, humanoid, scorpion, intelligent car, classic clock, soundbot, and tribot.

Ages 8+

TM979695—\$99.95

TM991732 2-Pack—\$196.95 **Save \$2**TM991733 4-Pack—\$391.95 **Save \$7**TM991734 6-Pack—\$584.95 **Save \$14**TM991735 8-Pack—\$775.95 **Save \$23**TM991736 10-Pack—\$964.95 **Save \$34**TM991737 12-Pack—\$1,151.95 **Save \$47**



Green City Challenge Combo Pack

The *Green City Challenge* is a theme-based set that guides students through a step-by-step introduction to robotics in the classroom and competitions. The *Green City Challenge Combo* consists of the *Green City Challenge Set* and *Activity Pack* and includes training mats, challenge mats, 1,300+ elements for building the challenge models, and an activity pack featuring seven easy-to-follow training activities. Includes:

- A step-by-step introduction to the LEGO® MINDSTORMS® Education platform in the classroom
- 45 hours of fun and engaging lessons
- Comprehensive teacher notes for easy implementation
- Real-world engineering challenges
- A research project on renewable energy

Key Learning Targets:

- Investigating simple machines
- Developing scientific testing skills
- Evaluating technological design
- Engineering design

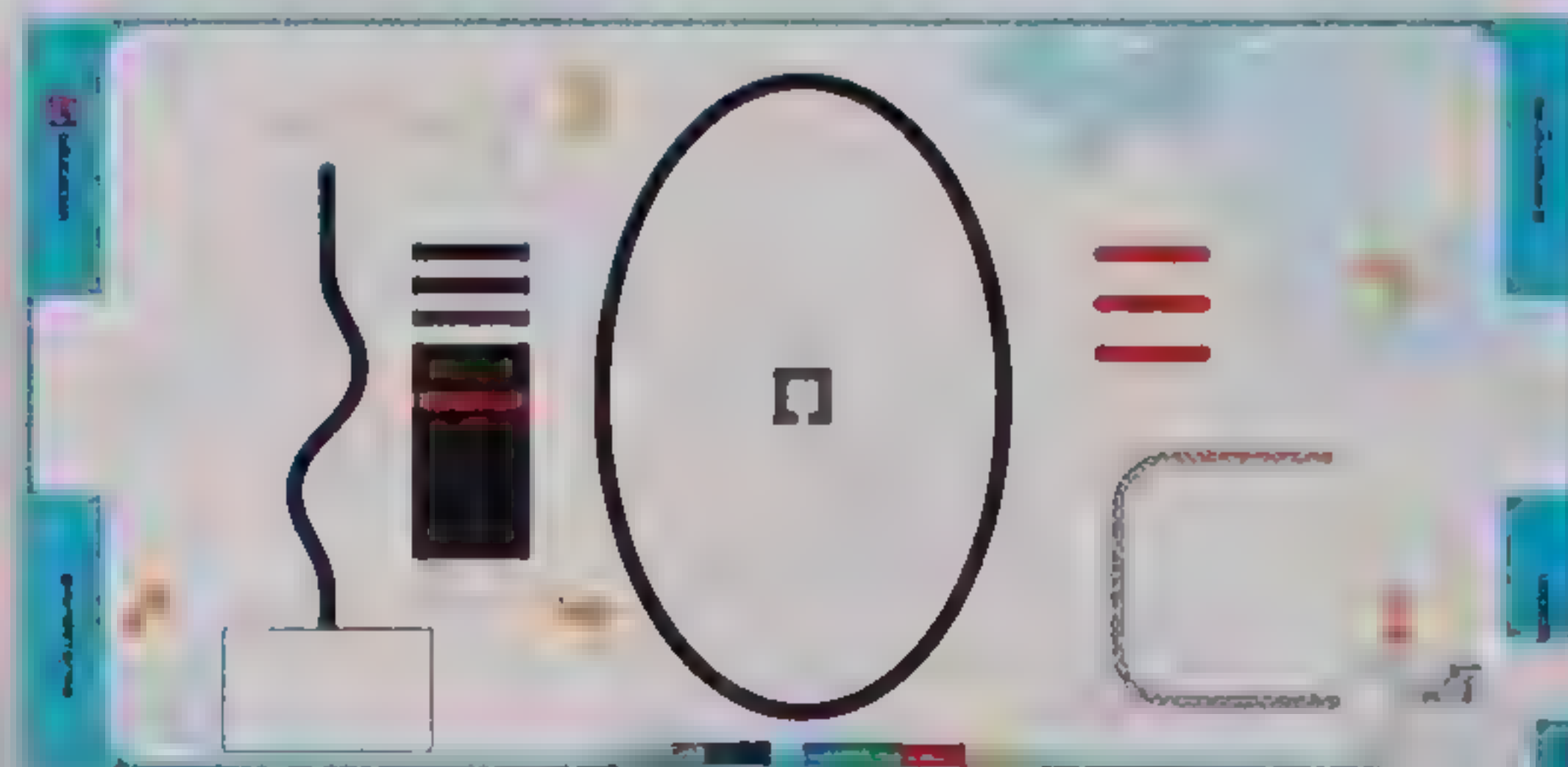
The *Green City Challenge Set* and *Activity Pack* were designed for use with the LEGO MINDSTORMS Education NXT Base Set and Software, sold separately.

Ages 8+

TM999594—\$319.95

TM979594 Green City Challenge Set—\$174.95

TM209594 Green City Challenge Activity Pack—\$154.95



Program your robot to activate the wind turbine.

Test and practice on the training mats.

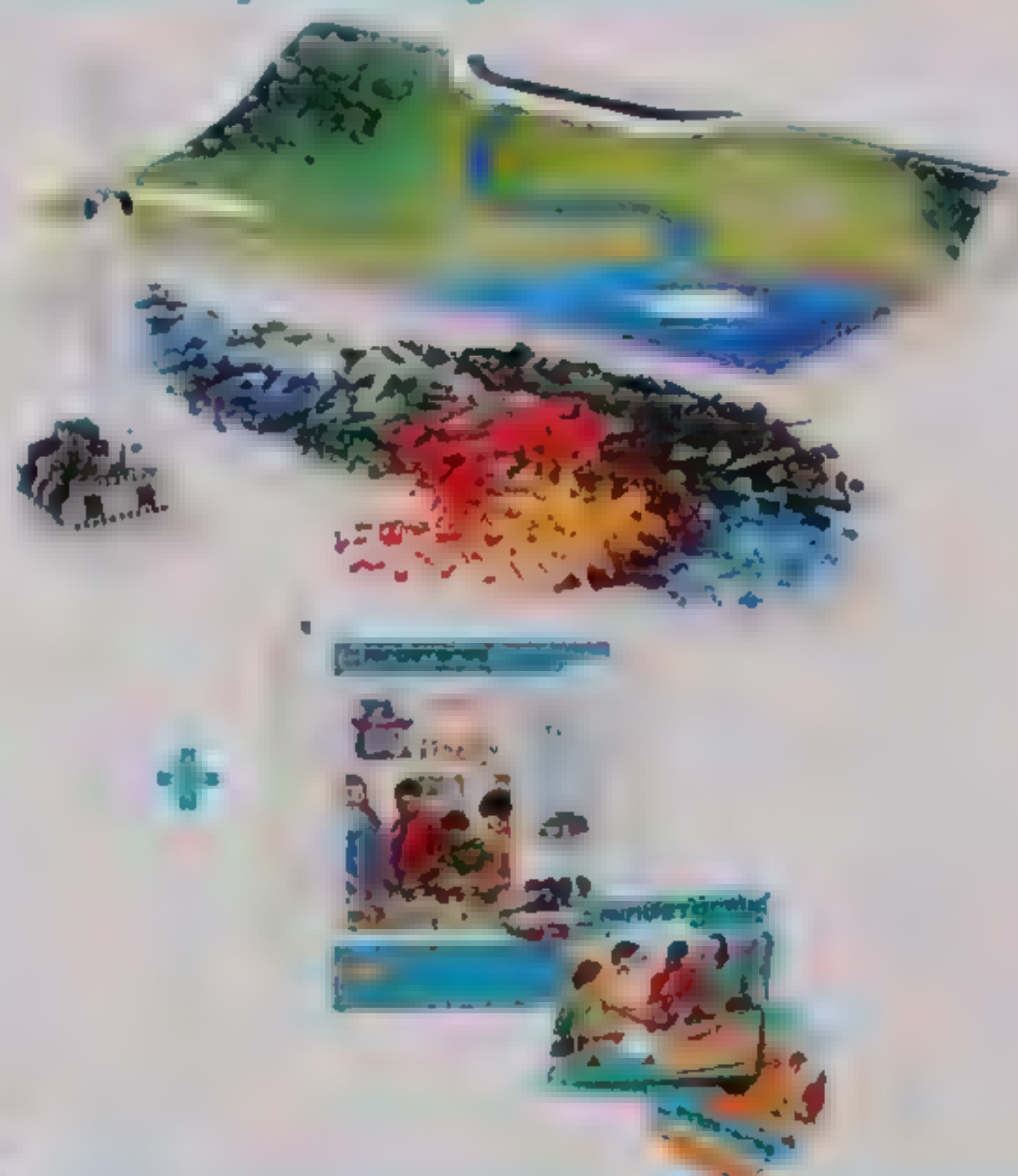
A
\$4,000.25
value!



TM991033 Green City Challenge Getting Started Package—\$3,868.95

Green City Challenge Combo Pack

1x



LEGO® MINDSTORMS® Education Software + Site License

1x



Ages 8+

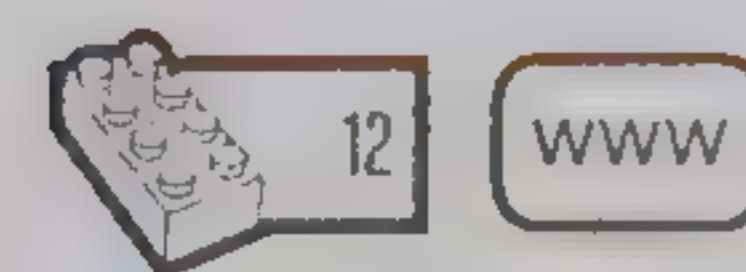
LEGO® MINDSTORMS® Education Base Set

12x



Place the solar panel on the house.

TM991960 Green City Challenge Getting Started Package with Professional Development—\$5,668.95



Renewable Energy Add-On Set

The *Renewable Energy Add-On Set* enables your students to explore energy concepts with LEGO® MINDSTORMS® Education. They experiment using energy from their own bodies and the three main energy sources – solar, wind, and water – to generate, store, and use power. When connected to the *NXT Brick*, the unique elements of the *Renewable Energy Add-On Set* (solar panel, generator, and LEGO Energy Meter) work as sensors.

Key Benefits:

- Explore energy supply, transfer, accumulation, and conversion
- Collect input/output in volts, amps, watt, and energy storage level in joules
- Compatible with both LEGO MINDSTORMS Education and Simple and Motorized Mechanisms

Ages 8+

TM779688—\$99.95

TM991714 2-Pack—\$196.95 **Save \$2**

TM991715 4-Pack—\$391.95 **Save \$7**

TM991716 6-Pack—\$584.95 **Save \$14**

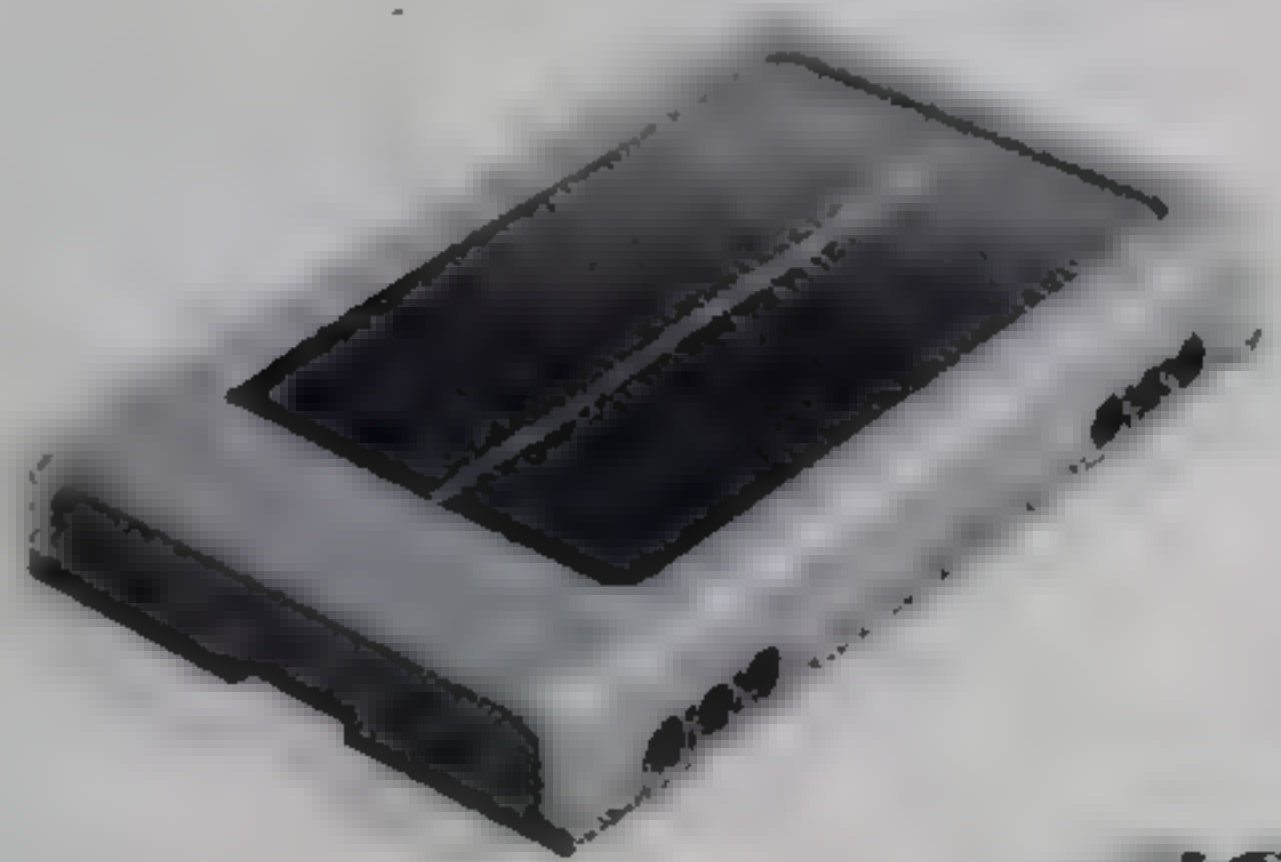
TM991717 8-Pack—\$775.95 **Save \$23**

TM991718 10-Pack—\$964.95 **Save \$34**

TM991719 12-Pack—\$1,151.95 **Save \$47**

Solar Panel

Energy Meter for collecting and storing power



E-Motor



Windmill Blades



Connecting Cables



LED Lights



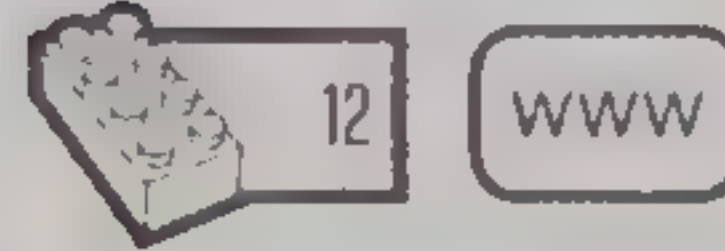
LEGO® MINDSTORMS® and Renewable Energy Activity Pack

This activity pack features up to 23 hours of hands-on activities that meet expectations in science, technology, engineering, and mathematics and focuses on power generation from renewable sources. Designed for use with the LEGO® MINDSTORMS® Education NXT Base Set, *Renewable Energy Add-On Set*, and *MINDSTORMS Energy Parts Pack*. Includes:

- Building guides, NXT sample programs, programming guides, and reproducible worksheets for all 4C-based activities.
- Additional activities containing video tours of sample NXT programs to walk users through key concepts in programming.
- Extension activities with detailed overviews as well as building and programming support.

Ages 8+

TM737978—\$99.95



MINDSTORMS® Energy Parts Pack

The MINDSTORMS® Education energy models require parts not included in the LEGO® MINDSTORMS Education Base Set and *Renewable Energy Add-On Set*. This pack includes the extra parts necessary to build the MINDSTORMS *Wind Turbine* and *Solar Station*. **Note:** These parts are also included in the LEGO MINDSTORMS Education Resource Set.

Ages 8+

TM991751—\$12

Educate to Innovate!

Through our collaboration, LEGO® Education and Carnegie Mellon University set out to:

- Create classroom-tested and research-based curriculum that supports teachers and engages students.
- Motivate learners to explore science, technology, engineering, mathematics, and computer science through robotics.
- Provide teachers with extensive professional development opportunities.
- Ensure educators are equipped with the tools needed to prepare their students for tomorrow's world.



Carnegie Mellon

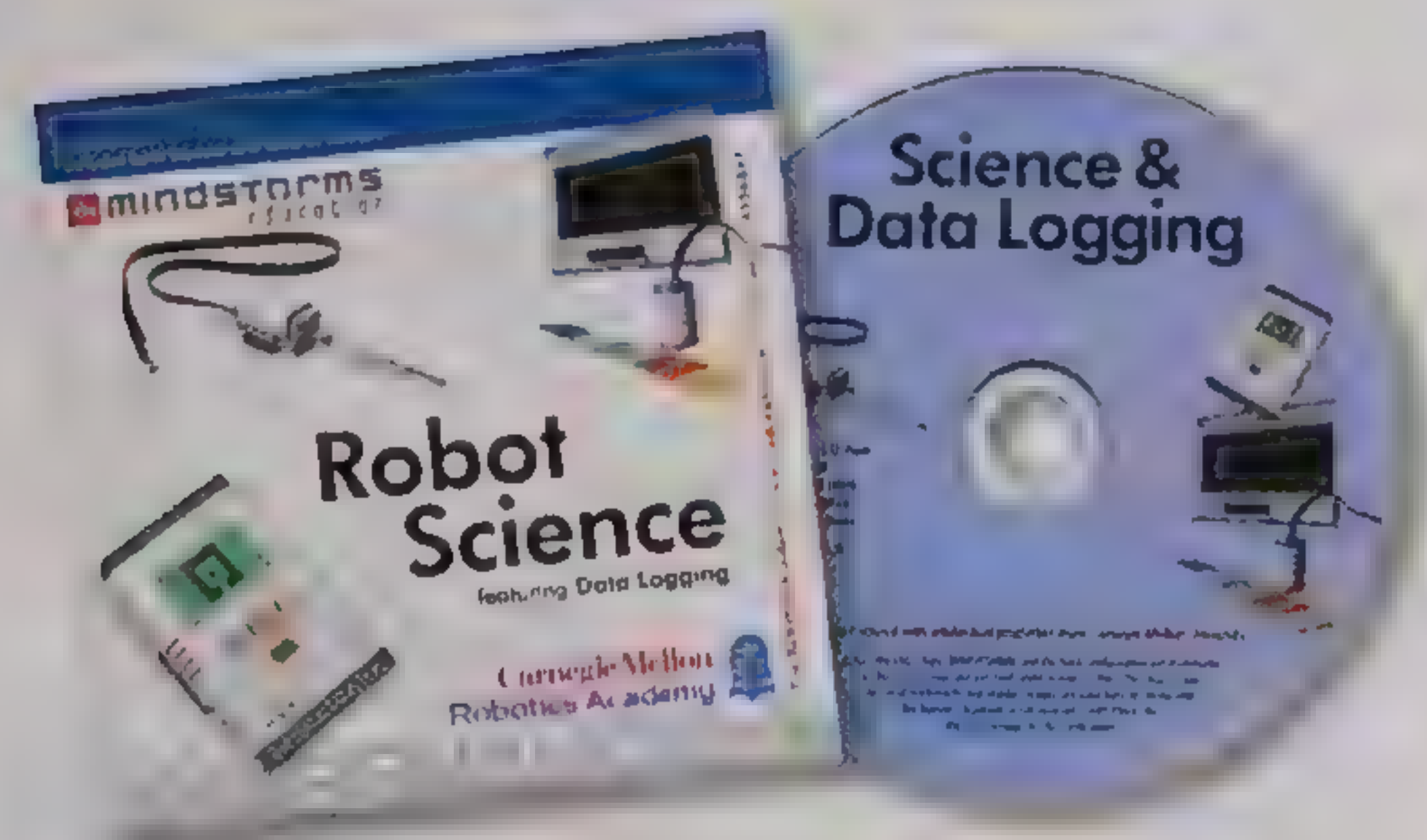


NXT Video Trainer 2.0

Programming is a basic skill for the twenty-first century. The *NXT Video Trainer* provides high-quality, student-tested instruction designed to teach programming. Independent learners will find it a captivating self-paced curriculum. Classroom teachers will appreciate it as an automated teaching assistant, enabling students to learn at their own pace while instructors provide individualized support.

The *NXT Video Trainer* is sold as a classroom license and enables teachers to install the software on every computer in a single classroom. Developed by Carnegie Mellon Robotics Academy.

TM991541—\$274.95



Robot Science Featuring Data Logging

Teach students the scientific principles of motion, heat, sound, and light and color using LEGO® Education robots! Students will design and develop robotic prototypes using the powerful features of the *NXT Brick* to collect and log data and form conclusions that will cement their understanding of important scientific and technological concepts.

This teaching tool features five standards-based science and technology projects designed to teach scientific methodology and engineering process as students use sensors to measure speed, heat, light, and sound.

No prior experience with the *NXT* or programming is required. This product aligns with national math, science, and technology education standards. Unlock the scientific power of the *NXT*!

TM209791—\$185

Designed for use with LEGO MINDSTORMS Education Set and Software, the *NXT Video Trainer*, *MINDSTORMS® Education Robotics Engineering I*, and *MINDSTORMS® Education Robotics Engineering II* are sold as classroom licenses that enable teachers to install the software on every computer in a single classroom.

LEGO® MINDSTORMS® Education



MINDSTORMS® Education Robotics Engineering I: Introduction to Mobile Robotics

This curriculum supports beginning robotics students with a dual emphasis on programming and standards-based academic STEM concepts. Each of the six projects begins with a robotics research prototype in which students are guided step-by-step through the building and programming of a new robot behavior. Afterwards, they follow up their prototype work with a robotics investigation in which the students experiment with the robot's motors, sensors, and programming to learn how robots really work.

TM991282—\$274.95



MINDSTORMS Education Robotics Engineering II: Guided Research

Students learn engineering as they continually develop solutions to robotic challenges currently found in agriculture, security, and energy. They have a chance to solve the same problems that today's scientists and engineers are facing. Using an engineering journal to document their progress, students conduct research; develop prototypes of potential solutions; select their optimal solution; and then build, test, and improve the design before presenting it to the "customer."

This curriculum, when coupled with *Introduction to Mobile Robotics*, covers more than 18 weeks of robotics engineering instruction.

TM991283—\$274.95

Getting Started Packages
available on page 22.

A
\$3,994.30
value!

TM991286 MINDSTORMS® Education Robotics Engineering I - Getting Started Package—\$3,029.95

LEGO® MINDSTORMS® Education NXT Base Set

12x



LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

1x




Ages 8+

MINDSTORMS® Education Robotics Engineering I: Introduction to Mobile Robotics

1x



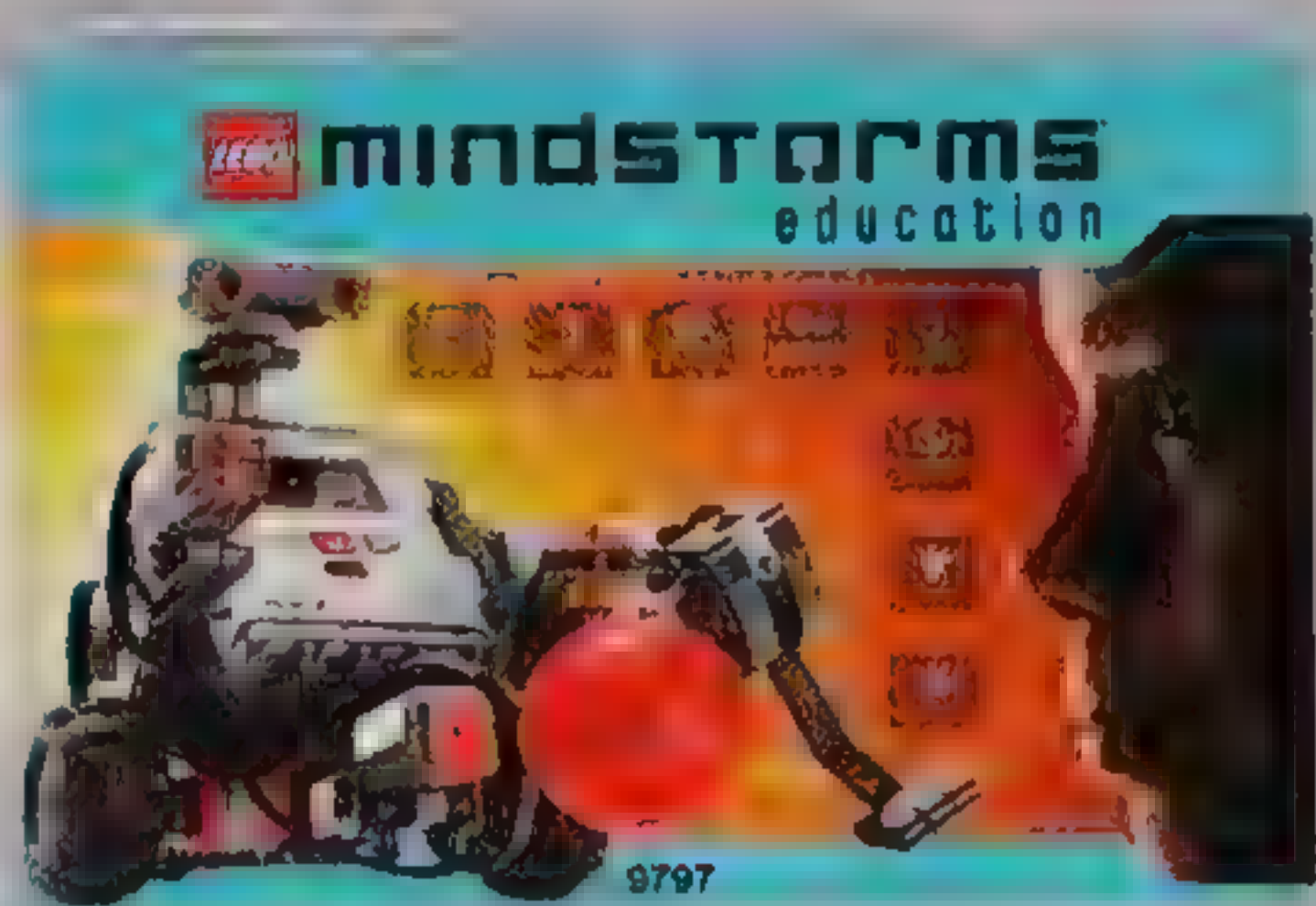
 **TM991795 MINDSTORMS® Education Robotics Engineering I - Getting Started Package with Professional Development—\$5,629.95**

A
\$4,269.25
value!

TM991288 MINDSTORMS® Education Robotics Engineering II - Getting Started Package—\$4,088.95

LEGO® MINDSTORMS® Education NXT Base Set

12x



LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

1x



Ages 8+

MINDSTORMS® Education Robotics Engineering I: Introduction to Mobile Robotics

1x



MINDSTORMS Education Robotics Engineering II: Guided Research

1x



 **TM991796 MINDSTORMS® Education Robotics Engineering II - Getting Started Package with Professional Development—\$5,888.95**

A
\$4,363.75
value!

TM991491 Robot Science - Getting Started Package—\$4,227.95

LEGO® MINDSTORMS® Education NXT Base Set

12x



LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

1x



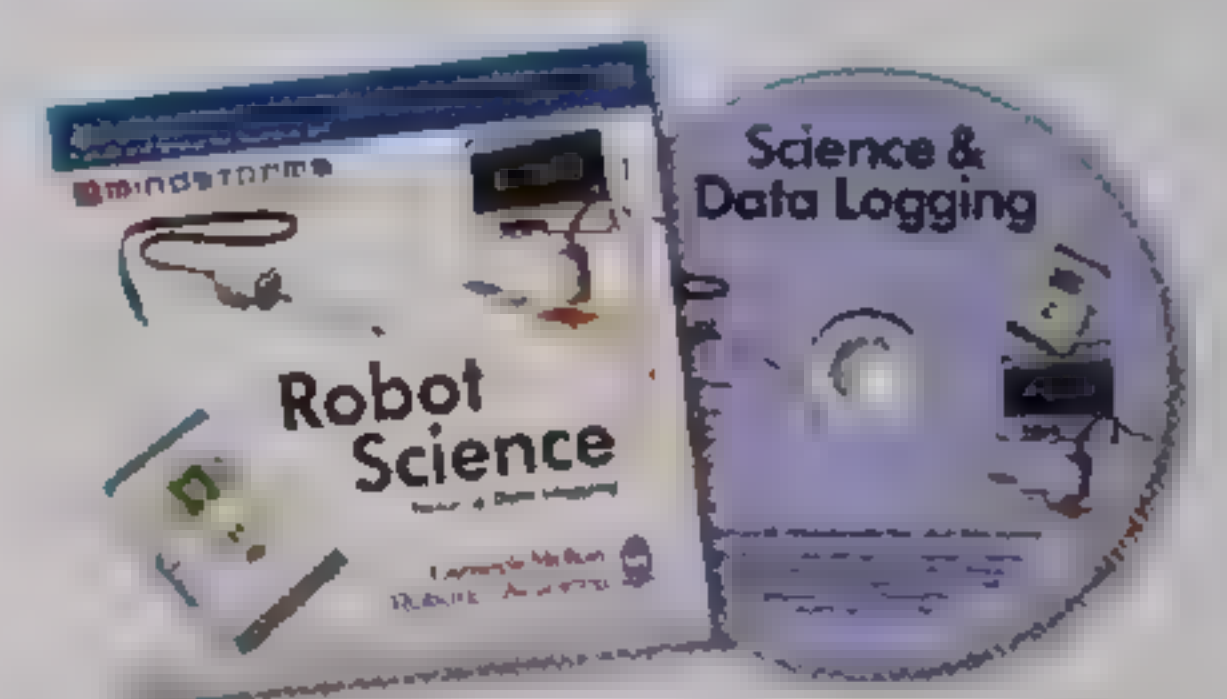
NXT Temperature Sensors

12x



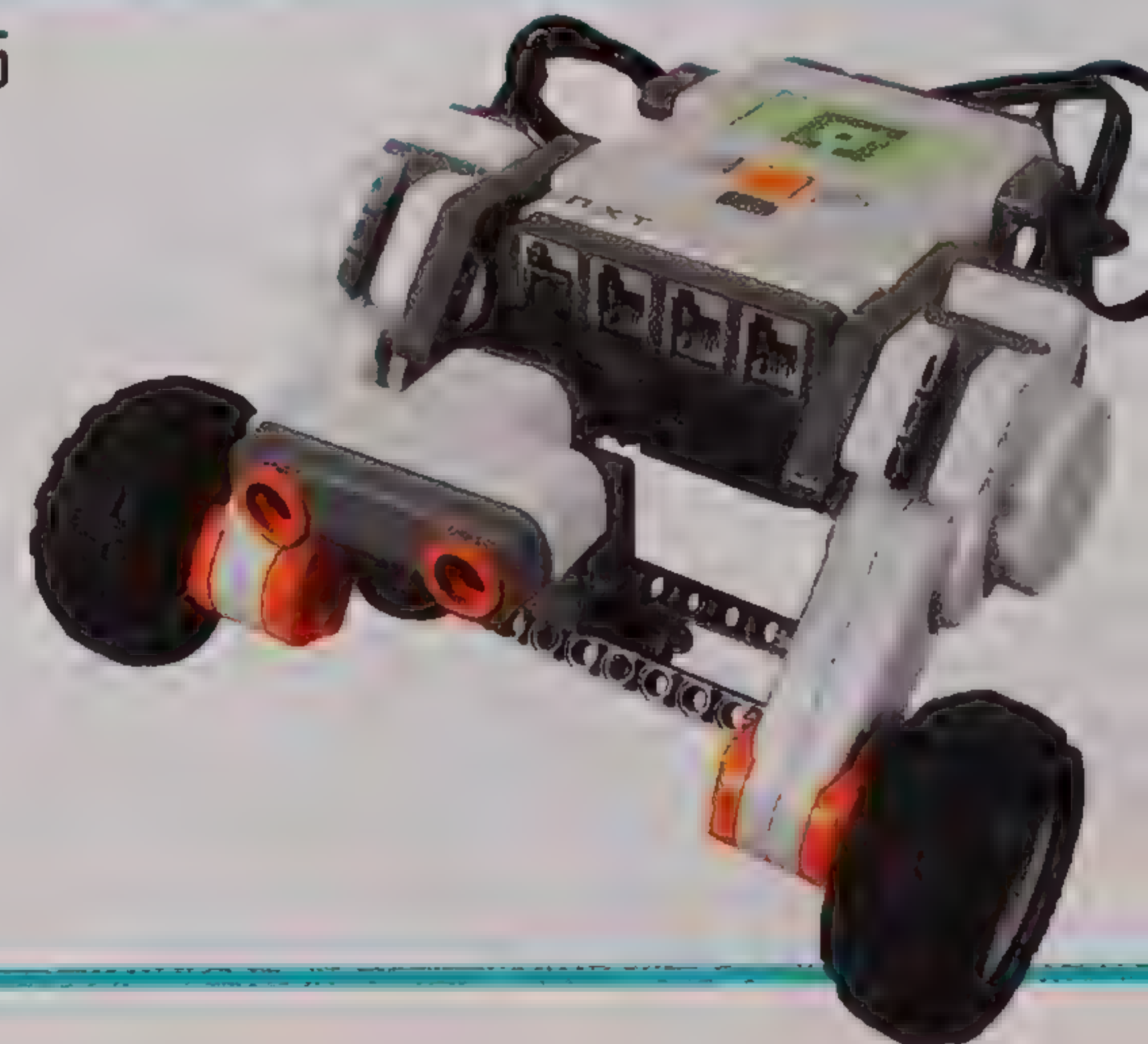
Robot Science Featuring Data Logging

1x



Ages 11+

 **TM991797 Robot Science - Getting Started Package with Professional Development—\$5,977.95**





Deep Space Terraformers Camp-on-a-Disk CD

Designed for use with the LEGO® MINDSTORMS® Education Set and Software, the *Terraformers Camp-on-a-Disk* CD takes campers to the edge of the universe on a mission to make a distant planet habitable for humans. Videos and animations help campers build robots, learn programming, tackle challenges, and hone their robotics and project-planning skills. Science facts are interspersed throughout, accompanying engineering design activities tied into space exploration.

Terraformers is perfect for a one-week robotics camp or a nine-to-12-week after-school program. It provides extensive resources for a robo camp director, including a step-by-step camp guide, registration forms, awards sheets, game-board plans, themed props, and much more.

TM991468—\$230

Deep Space Terraformers Camp-on-a-Disk Value Packs

These packs have everything you need to start an after-school program, summer camp, or robotics club. Ages 8+.

Terraformers Camp-on-a-Disk 4-Pack

- 4 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License
- Deep Space Terraformers Camp-on-a-Disk CD

TM991639—\$1,655.95 **Save \$33**

Terraformers Camp-on-a-Disk 8-Pack

- 8 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License
- Deep Space Terraformers Camp-on-a-Disk CD

TM991640—\$2,725.95 **Save \$83**

Terraformers Camp-on-a-Disk 12-Pack

- 12 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License
- Deep Space Terraformers Camp-on-a-Disk CD

TM991641—\$3,772.95 **Save \$156**



MINDSTORMS® Education NXT Value Packs

Looking for only sets and programming software? These packs are for you! Ages 8+.

MINDSTORMS® Education Value Pack – 2

- 2 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 (2 single licenses included in pack)

TM991416—\$709.95 **Save \$9**

MINDSTORMS® Education Value Pack – 4

- 4 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 (4 single licenses included in pack)

TM991292—\$1,410.95 **Save \$28**

MINDSTORMS® Education Value Pack – 6

- 6 LEGO® MINDSTORMS® Education NXT Base Set
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

TM991415—\$1,969.95 **Save \$49**

MINDSTORMS® Education Value Pack – 8

- 8 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

TM991291—\$2,502.95 **Save \$76**

MINDSTORMS® Education Value Pack – 10

- 10 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

TM991414—\$3,029.95 **Save \$109**

MINDSTORMS® Education Value Pack – 12

- 12 LEGO® MINDSTORMS® Education NXT Base Sets
- LEGO® MINDSTORMS® Education NXT Software 2.1 and Site License

TM991290—\$3,551.95 **Save \$147**



ROBOTC® 3.0 Software

ROBOTC® 3.0 is optimized for classroom use and includes a user-friendly interface with basic and advanced programming options. ROBOTC is designed to enhance a new programmer's learning experience while still meeting the needs of an advanced programmer. ROBOTC is based on the industry-standard C language; ROBOTC is a single programming solution for both LEGO® MINDSTORMS® NXT and LEGO MINDSTORMS Education with TETRIX® by Pitsco.

TM991935—\$79.95

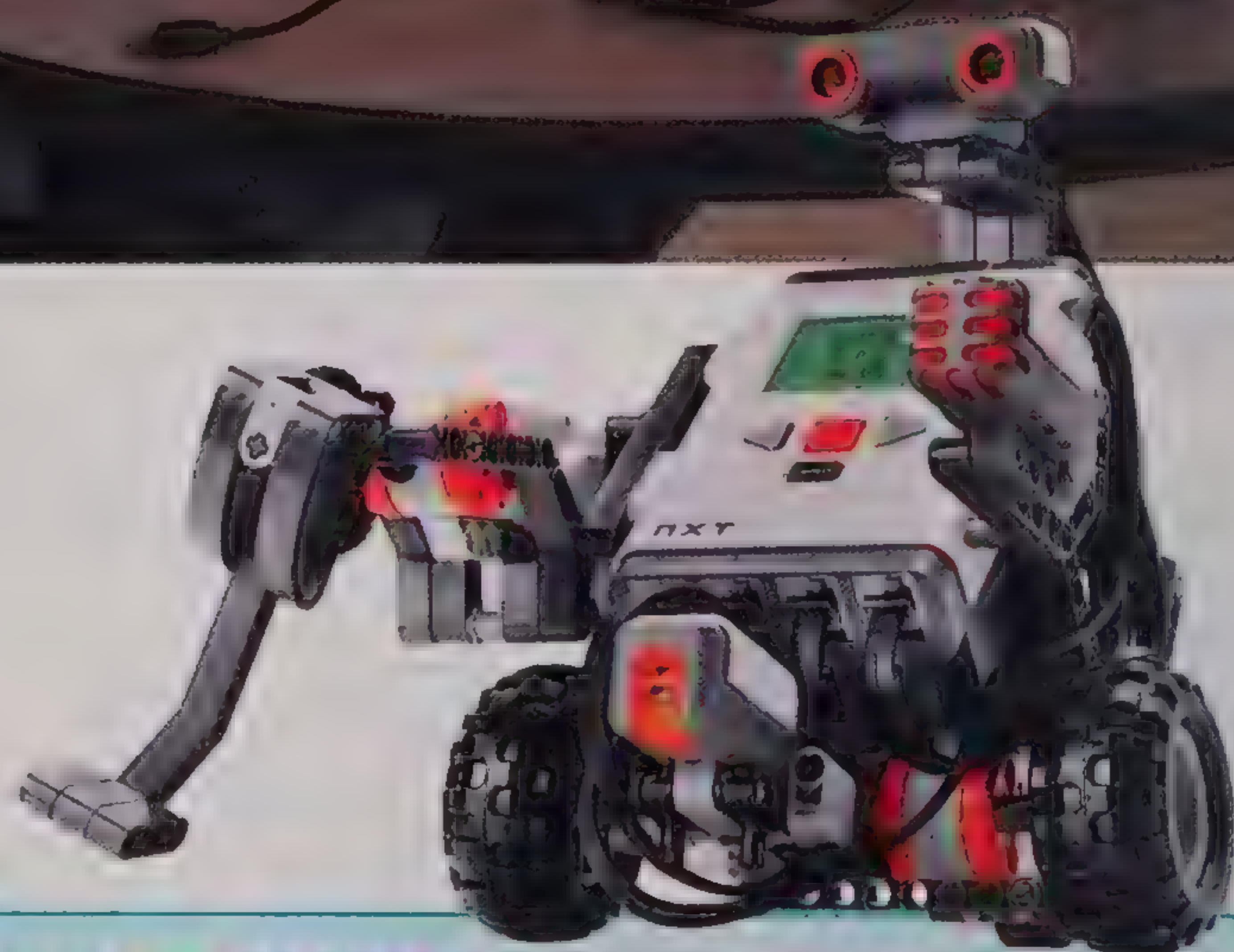
TM991936 ROBOTC® 3.0 Software and Classroom License—\$499.95



Teaching ROBOTC® For LEGO® MINDSTORMS®

Today, knowing how to program is valuable. Tomorrow, it will be invaluable. Teaching ROBOTC® for LEGO® MINDSTORMS® teaches robotic C programming to nonprogrammers. Using the ROBOTC software and LEGO NXT-based robots, this programming curriculum covers everything a new programmer needs, including setup, fundamentals, movement, sensing, and variables.

TM991376—\$274.95

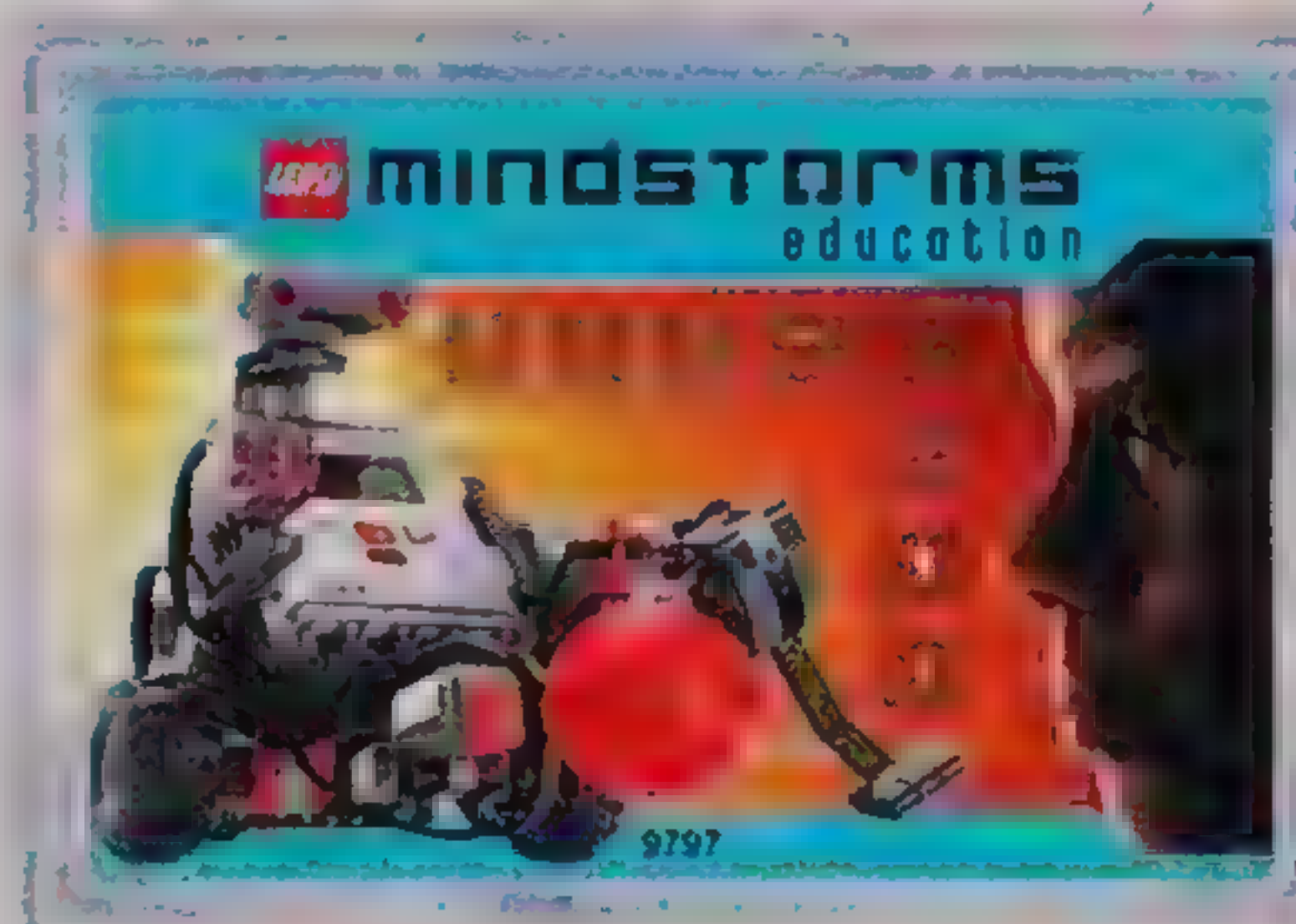


A
\$4,134.30
value!

TM991442 MINDSTORMS® Education ROBOTC® - Getting Started Package—\$3,968.95

LEGO® MINDSTORMS® Education NXT Base Set

12x



ROBOTC® Software and 24-Seat License

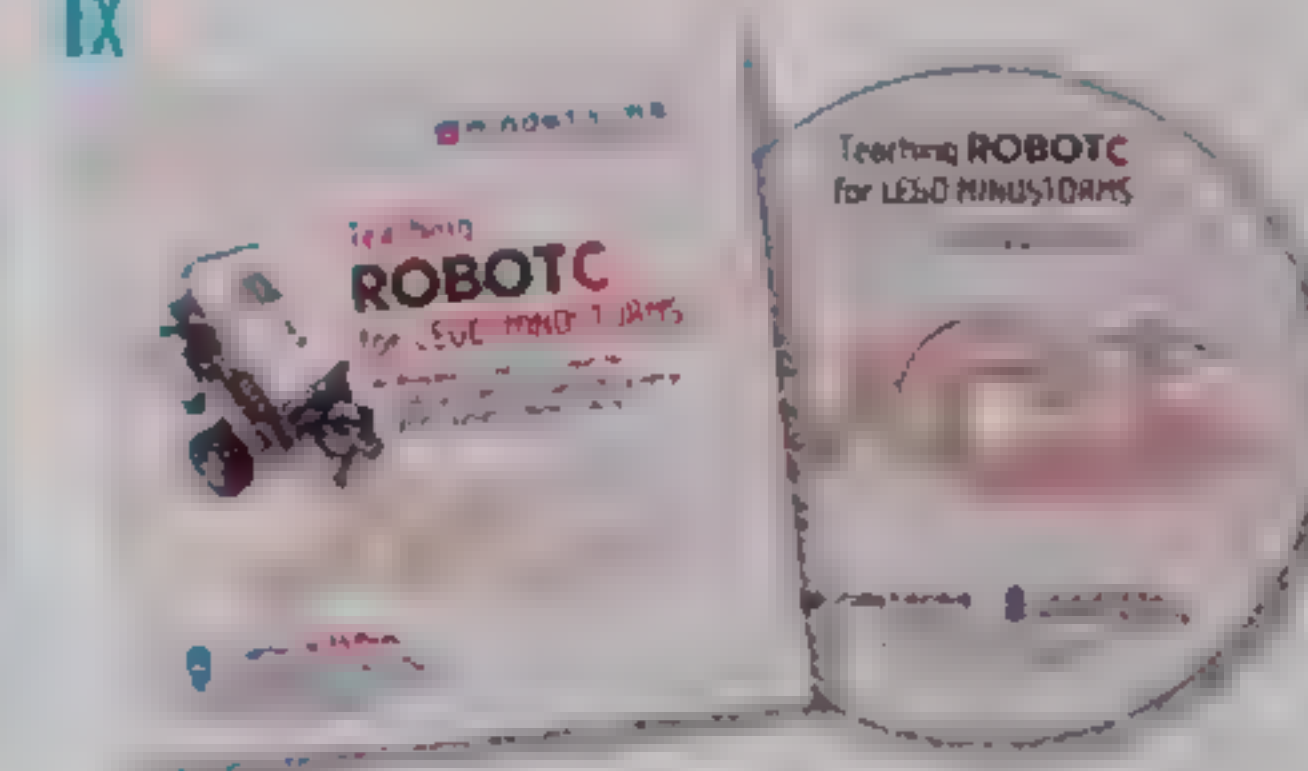
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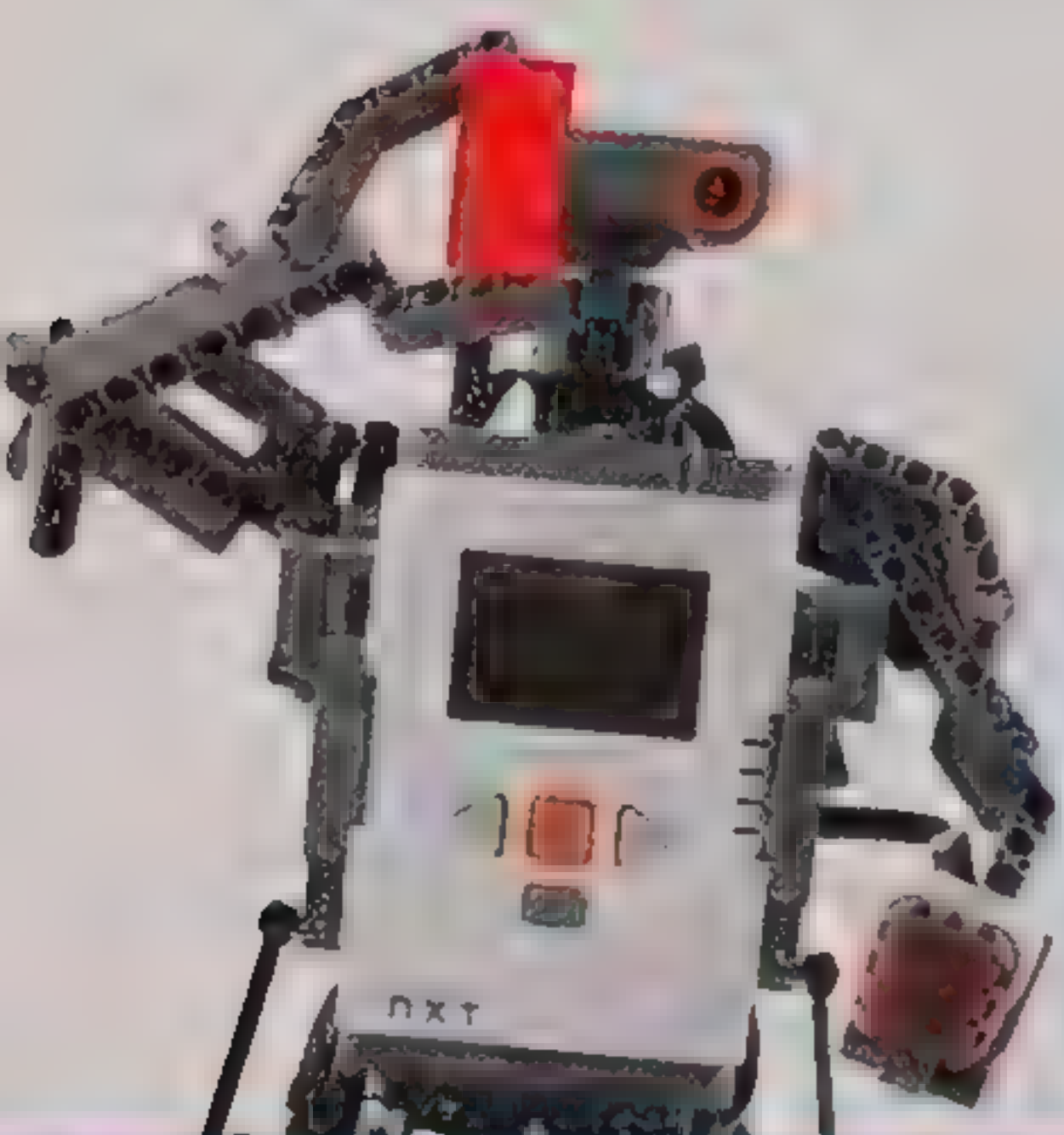
Ages 8+

Teaching ROBOTC® for LEGO® MINDSTORMS®

1x



TM991798 MINDSTORMS® Education ROBOTC® - Getting Started Package with Professional Development—\$5,768.95



Find out how ROBOTC's new Robot Virtual World simulation software allows programmers to test their robots in a simulation environment before they test the code on their real robots. Visit LEGOeducation.us/VirtualWorlds.

The Young Inventor's Project with LEGO® MINDSTORMS® Education NXT

The Young Inventor's Project is an innovative and engaging 30-hour curriculum introducing creative robotics to students in middle school. Your students will use humanities as a foundation for the exploration of past, present, and future inventions. Spiral-bound, 120 pages.

Grades 5+

TM991457—\$49.95

The Young Inventor's Project



Physics by Design with NXT MINDSTORMS®

Physics by Design with NXT MINDSTORMS® teaches classical mechanics through engineering. It covers motion, forces, fluids, stability, work, and energy. The topics are approached from an engineering perspective, with building and designing reinforcing the conceptual physics material and vice versa. The activities in this book were written for LEGO® MINDSTORMS Education NXT Software 2.0. Paperback, 333 pages.

Grades 9+

TM991562—\$36

Physics by Design

with NXT MINDSTORMS
Third Edition



By Barbara Bratzel

Foreword by Chris Rogers

Datalogging Activities for the Busy Teacher

This book provides more than 25 different data-logging activities that utilize the LEGO® MINDSTORMS® Education NXT Software 2.0 to quickly and easily configure experiments and display the results.

Experiments are provided for the NXT Touch, Sound, Light, Distance, and Temperature sensors. Each experiment comes with teacher notes, sample graphs, and student worksheets. Spiral-bound, 124 pages.

Grades 5+

TM991601—\$60

Datalogging Activities for
the Busy Teacher



Over 25 activities using the
datalogging capabilities of the
LEGO® MINDSTORMS® NXT system

Damien Kee

Educate NXT

Educate NXT is the ultimate NXT robotics resource for teachers and students. Teachers will find out how to successfully and confidently manage a robotics program within their school. A wide-ranging series of additional challenges round off an NXT resource written by teachers, for teachers. Includes graded student worksheets, extensive teacher sections, and PowerPoint presentations. Paperback/spiral-bound, 275 pages.

Grades 5+

TM735870—\$45

Educate NXT



by
Chris Bracken
with contributions from
Rob Torok and Damien Kee

Classroom Activities for the Busy Teacher: NXT

Classroom Activities for the Busy Teacher: NXT contains a 10-week set of lesson plans geared toward fifth-through 10th-grade teachers who want to implement robotics into their classroom. Each lesson is centered around one robot and includes a scenario with background information, equipment list, teacher notes, programming examples, reproducible student worksheets, and extension activities. Spiral-bound, 123 pages.

Grades 5+

TM991455—\$60

Classroom Activities for
the Busy Teacher : NXT



A 10 week lesson plan for
teaching robotics using the
LEGO MINDSTORMS system

Damien Kee

Physics with Robotics

The *Physics with Robotics* book turns practical physics investigations into reality, inspiring students to create more project ideas for LEGO® MINDSTORMS®. Includes more than 20 classroom-tested activities covering topics such as force and motion, energy, vibrations and waves, and electricity and magnetism.

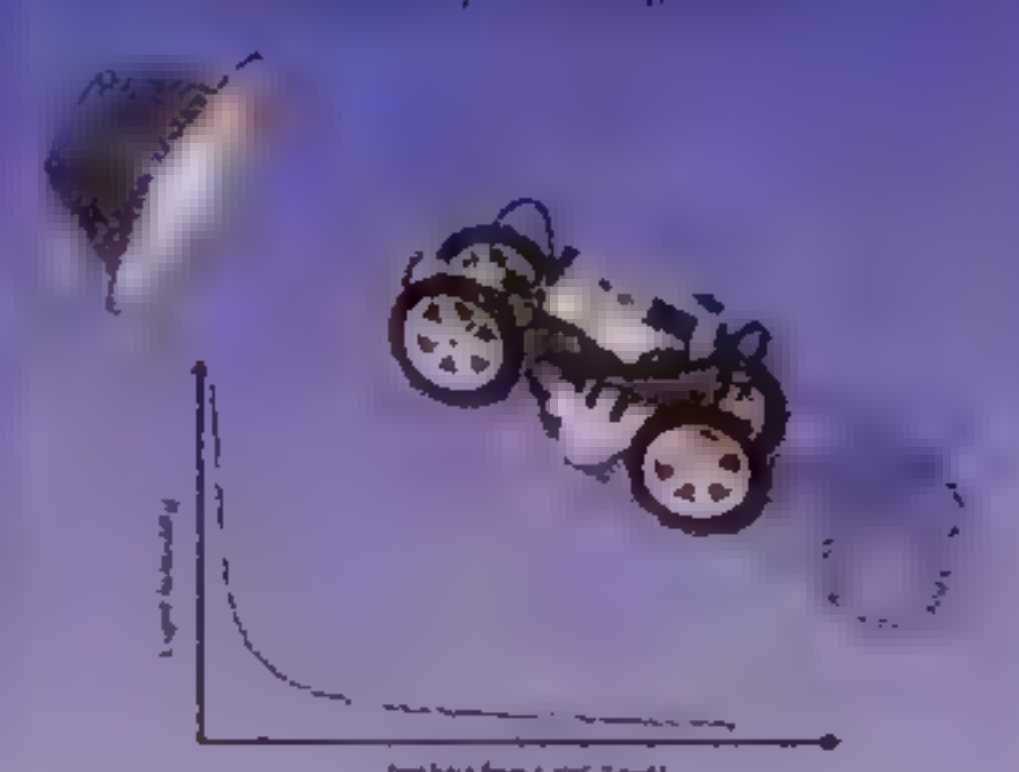
The LEGO MINDSTORMS Education NXT Base Set and LEGO MINDSTORMS Education NXT Software are recommended. Many activities also support ROBOLAB™ software for use with NXT and RCX Intelligent Bricks. Paperback, 208 pages.

Grades 5+

TM991521—\$21

Physics with Robotics

An NXT and RCX Activity Guide
For Secondary and College Physics



William Church
Tony Ford
Natasha Perova

Foreword by Chris Rogers



For more information, books, and teacher resources,
visit LEGOeducation.us/LMEbooks.

Sense the Excitement!

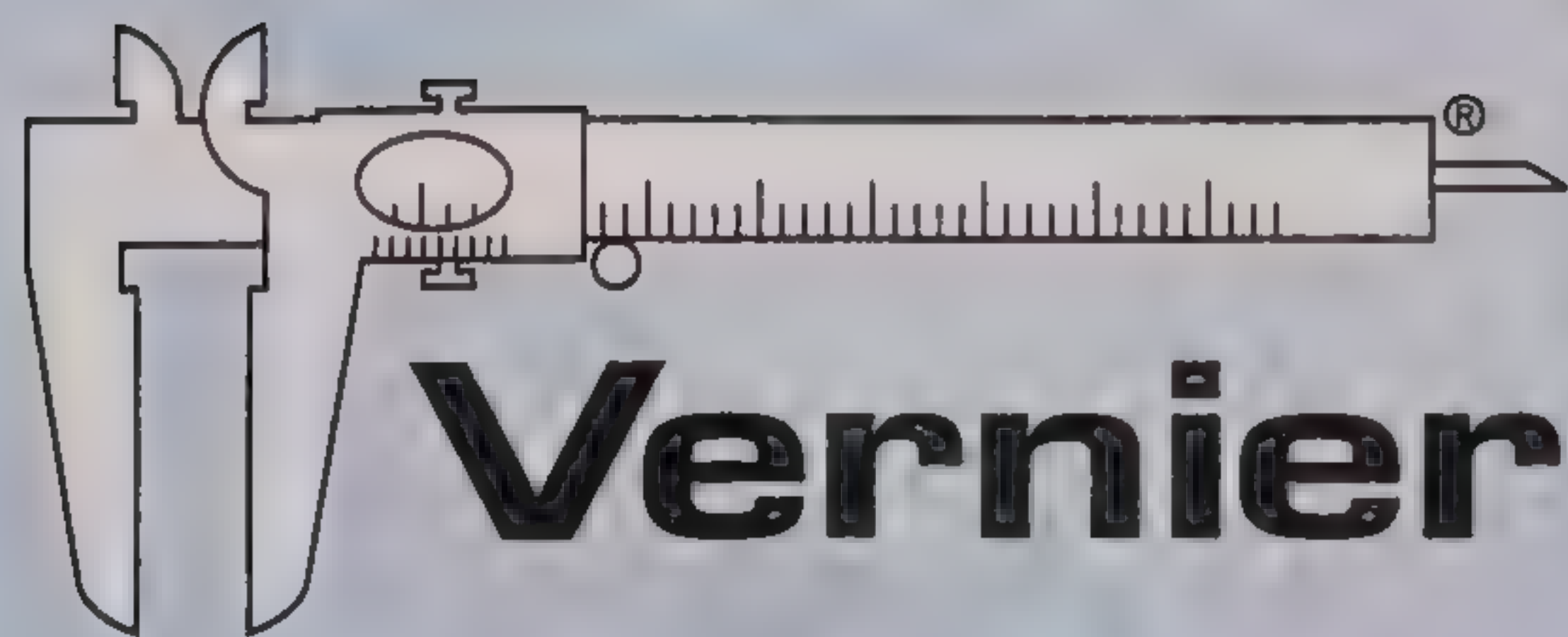


For activities using the Vernier Sensor Adapter for NXT and Vernier Sensors, visit vernier.com/nxt.

LEGO® Education and Vernier Software

Technology partnered to:

- Create easy-to-use, affordable sensors that enhance STEM Education.
- Excite students about science, engineering, and robotics.
- Expand the capability of the MINDSTORMS® robotics platform through the use of Vernier sensors.
- Introduce core scientific topics in a way that engages learners.
- Develop students' 21st-century learning and critical-thinking skills.



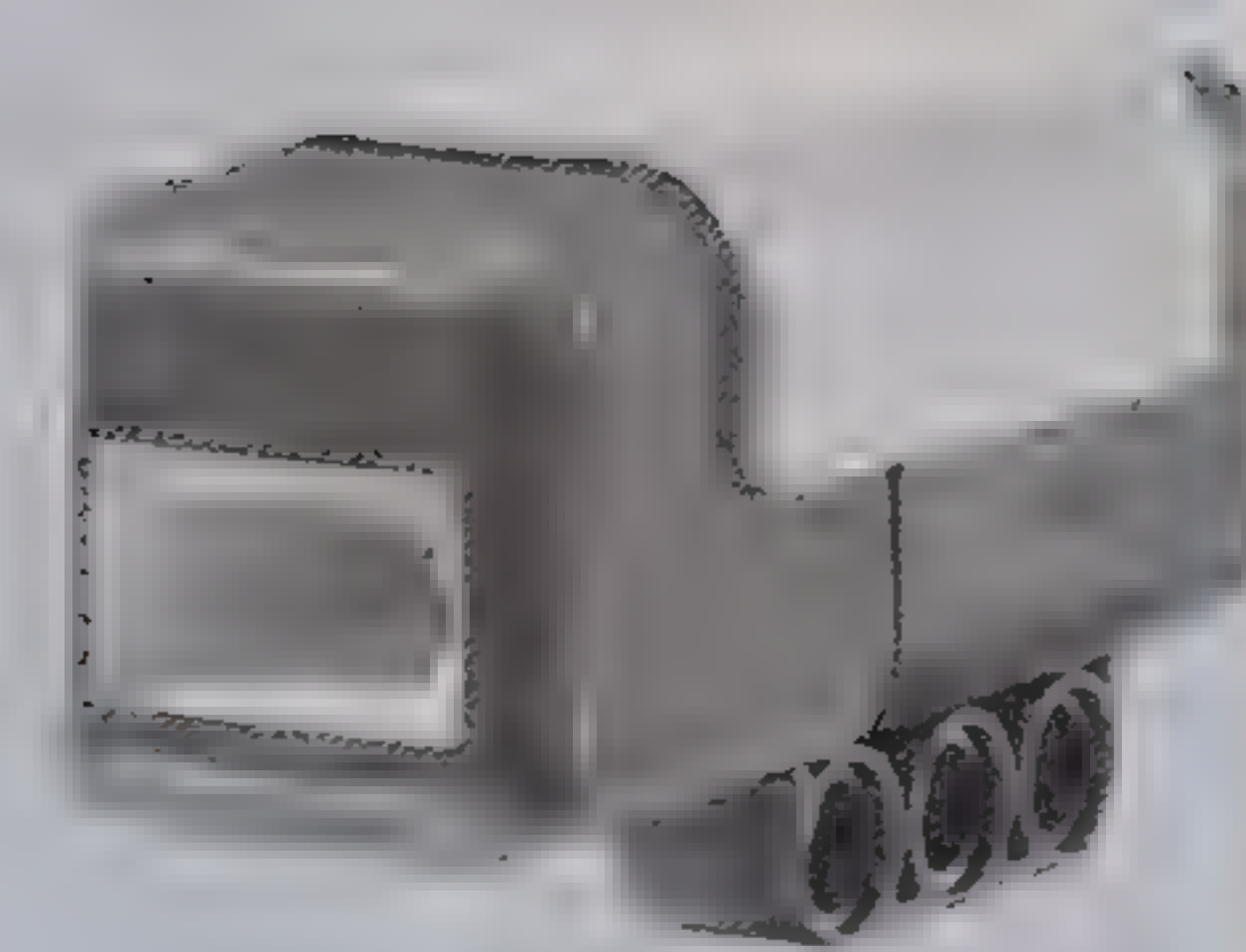


Vernier Sensor Adapter For NXT

Increase the flexibility of your LEGO® MINDSTORMS® Education sets and software with Vernier sensors! With this sensor adapter, any of the 40+ Vernier analog (BTA) sensors can be incorporated into NXT creations. Vernier sensors can be purchased at www.vernier.com, and the programming block can be downloaded for free at www.LEGOeducation.us/vernier.

Ages 8+

TM779799—\$39.95



Visit www.vernier.com/nxt for project ideas, movies, and programs using the Vernier Sensor Adapter for NXT and Vernier sensors!

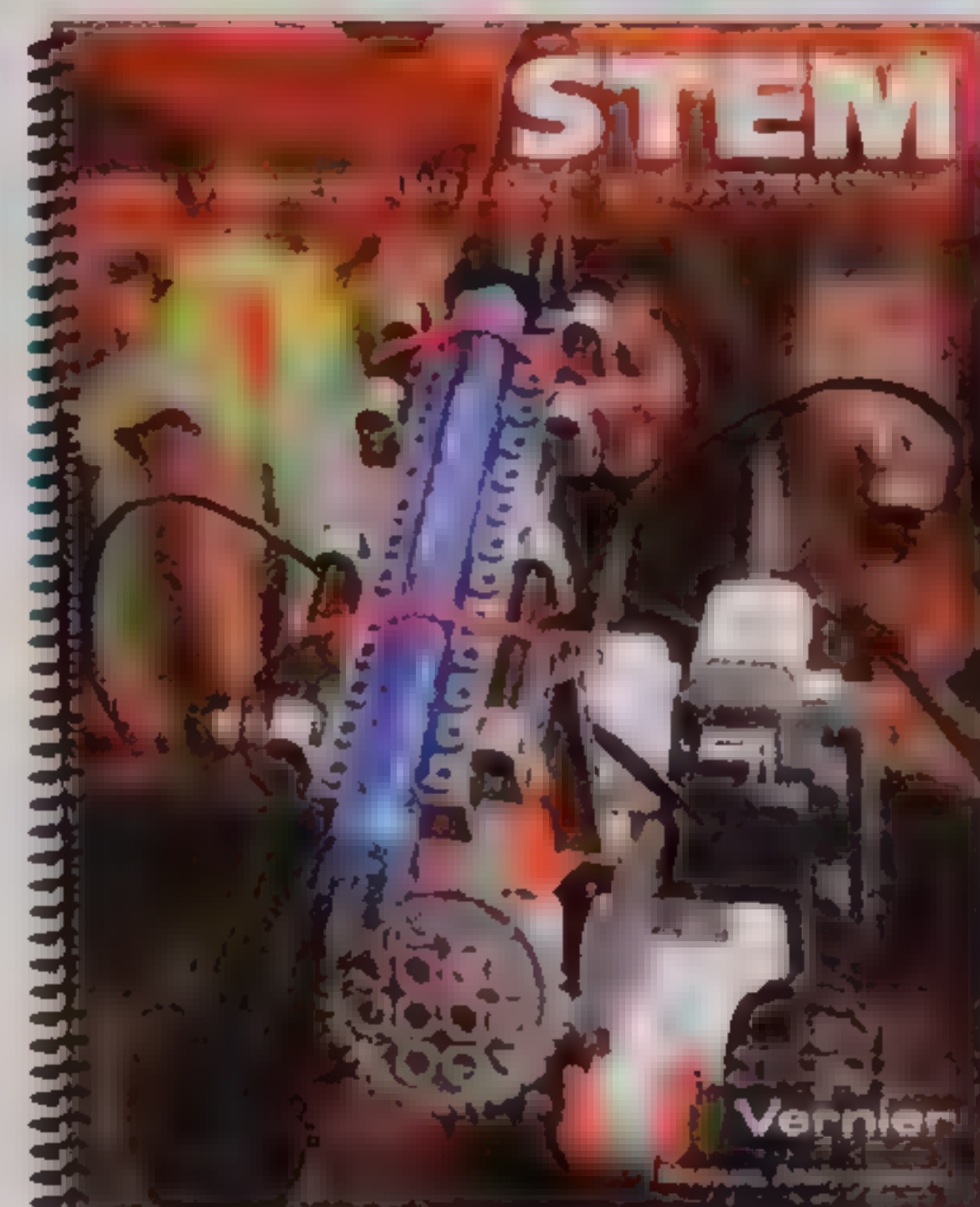
STEM with Vernier and LEGO® MINDSTORMS® NXT

The *STEM with Vernier and LEGO® MINDSTORMS® NXT* book covers core topics in environmental science; includes 14 lab activities involved in collecting data with Vernier pH, Conductivity, Temperature, UV, and Soil Moisture Sensors; and also includes four design-and-build robotics projects.

A CD included with the book has editable student handouts in *Word* format and MINDSTORMS NXT sample programs, movie clips, and LEGO *Digital Designer* files with detailed instructions for building and operating the robotics projects. Buy one book and print out activities for your entire class. Paperback/spiral-bound, 226 pages.

Grades 6+

TM991540—\$35



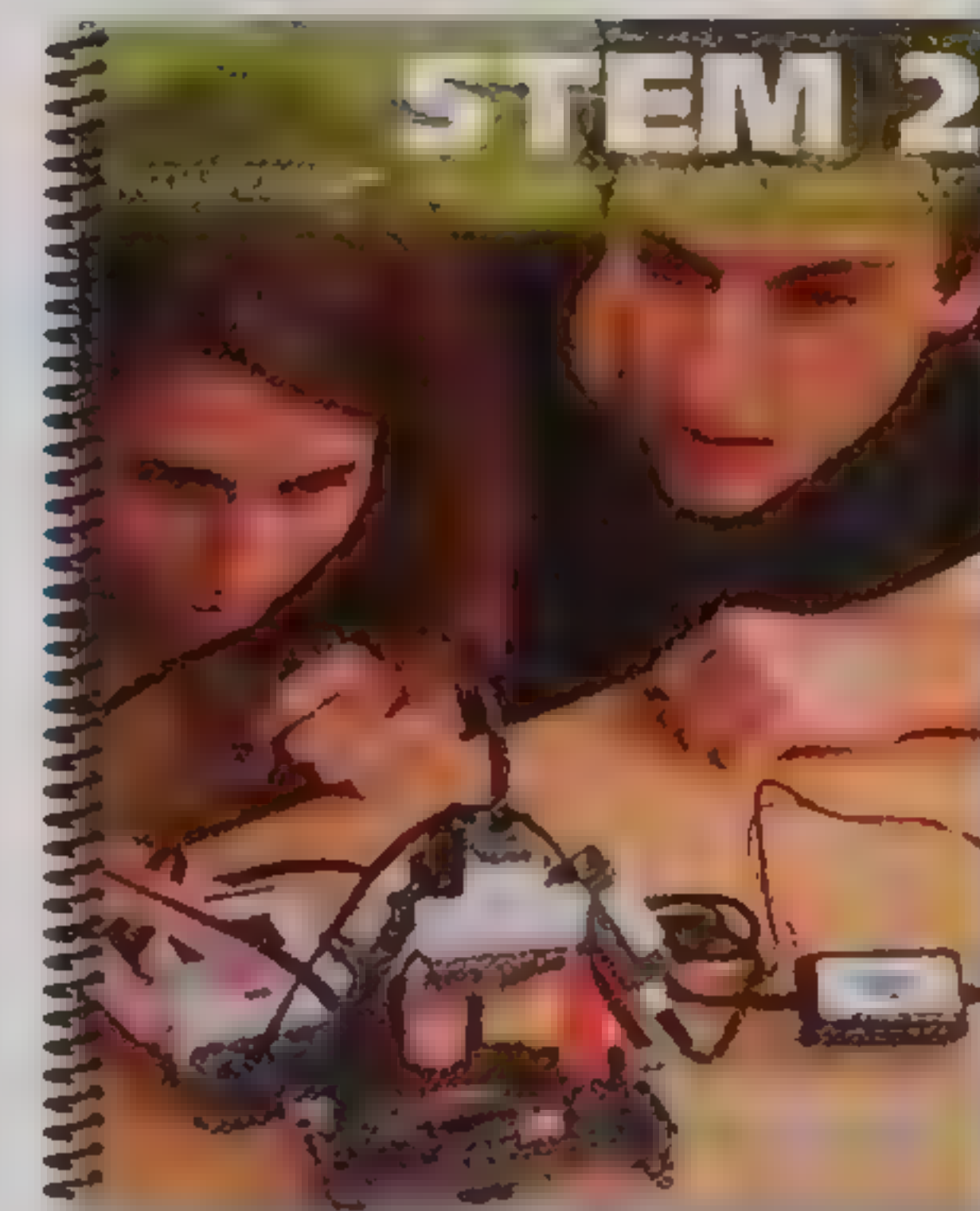
STEM 2 with Vernier and LEGO® MINDSTORMS® NXT

STEM 2 with Vernier and LEGO® MINDSTORMS® NXT has activities using Vernier's Dual-Range Force Sensor, Magnetic Field Sensor, Voltage Probe, and Gas Pressure Sensor to motivate upper middle school and high school students to pursue science and engineering careers. It includes 12 ready-to-use lab activities and eight design-and-build robotics projects covering topics in physical science and engineering, including mechanics, pressure, electricity, and magnetism.

A CD included with the book has editable student handouts in *Word* format and MINDSTORMS NXT sample programs, movie clips, and LEGO *Digital Designer* files with detailed instructions for building and operating the robotics projects. Buy one book and print activities for your entire class. Paperback/spiral-bound, 241 pages.

Grades 6+

TM991563—\$35



Vernier and MINDSTORMS® Science Bundle

Everything you need to complete the activities in the *STEM with Vernier and LEGO® MINDSTORMS® NXT* book, sold separately, in one convenient bundle. Includes:

- 2 Vernier Sensor Adapters for NXT
- Pneumatic Parts Pack
- 2 Vernier Temperature Probes
- Vernier pH Probe
- Vernier UVB Sensor
- Vernier Conductivity Probe
- Vernier Soil Moisture Sensor

TM991549—\$531.95



Vernier and MINDSTORMS® Science Bundle 2

Everything you need to complete the activities in the *STEM 2 with Vernier and LEGO® MINDSTORMS® NXT* book, sold separately, in one convenient bundle. Includes:

- Vernier Sensor Adapter for NXT
- Vernier Voltage Probe
- Vernier Dual-Range Force Sensor
- Vernier Gas Pressure Sensor
- Vernier Magnetic Field Sensor
- Vernier Luer-Lock Connector
- Solar Mini Panel (2-5/8" x 3-3/4") (2.0V, 200 mA)
- Solar Mini Panel with Alligator Clips

TM991569—\$299.95



NXT Touch Sensor

Detects pressure when the button is pressed or released and is able to count single and multiple presses. A LEGO® cross axle can be attached to the sensor button.

Ages 8+

TM979843—\$19.95

TM991812 4-Pack—\$77.95

TM991813 8-Pack—\$154.95

TM991814 12-Pack—\$230.95

NXT Light Sensor

The *NXT Light Sensor* reads light intensity from the surrounding environment, as well as the reflection from the infrared transmitter. The LED light source can be turned off for an accurate ambient light reading.

Ages 8+

TM979844—\$19.95

TM991800 4-Pack—\$77.95

TM991801 8-Pack—\$154.95

TM991802 12-Pack—\$230.95

HiTechnic Touch Sensor Multiplexer

The *HiTechnic Touch Sensor Multiplexer* enables you to connect up to four *NXT Touch Sensors* to a single *NXT Intelligent Brick* sensor port.

Ages 8+

TM991446—\$28.99



NXT Color Sensor

The *NXT Color Sensor* works as a color sensor, distinguishing among six colors; it works as a light sensor, detecting light intensities – both reflected light and ambient light; and it works as a color lamp, emitting red, green, or blue light. Requires LEGO® MINDSTORMS® Education NXT Software 2.1.

Ages 8+

TM979694—\$39.95

TM991815 4-Pack—\$156.95

TM991816 8-Pack—\$310.95

TM991817 12-Pack—\$460.95

NXT Sound Sensor

The sound sensor is able to measure noise levels in dB and dBA. It can also recognize sound patterns and identify tone differences.

Ages 8+

TM979845—\$28.95

TM991803 4-Pack—\$113.95

TM991804 8-Pack—\$225.95

TM991805 12-Pack—\$334.95

NXT Ultrasonic Sensor

The ultrasonic sensor is able to detect an object and measure its proximity in inches and centimeters.

Ages 8+

TM979846—\$33.95

TM991806 4-Pack—\$132.95

TM991807 8-Pack—\$264.95

TM991808 12-Pack—\$392.95



NXT Temperature Sensor

This digital temperature sensor can be calibrated to measure both Celsius and Fahrenheit using the *NXT Intelligent Brick* and the LEGO® MINDSTORMS® Education Software v.2.0 or higher.

Ages 8+

TM979749—\$39.95

TM991809 4-Pack—\$156.95

TM991810 8-Pack—\$310.95

TM991811 12-Pack—\$460.95

Need More Sensors?

The MINDSTORMS® Education NXT Set normally comes with a charger for the included rechargeable battery. If you've got enough chargers in your classroom and prefer to receive an extra sensor instead, check out these options. Ages 8+.

Comes with NXT Rechargeable DC Battery and requires a DC Charger. See page 33 for more details.



MINDSTORMS® Education Sets Plus Color Sensor

Instead of a charger, these special packs include an *NXT Color Sensor* in its place.

Ages 8+

TM991825 MINDSTORMS® Education Set Plus Color Sensor Pack—\$294.95

TM991818 4-Pack—\$1,156.95

TM991819 8-Pack—\$2,288.95

TM991820 12-Pack—\$3,397.95

MINDSTORMS® Education Set Plus Light Sensor

Instead of a charger, these special packs include an extra *NXT Light Sensor* in its place.

Ages 8+

TM991499 MINDSTORMS® Education Set Plus Light Sensor Pack—\$279.95

TM991500 4-Pack—\$1,077.95

TM991501 8-Pack—\$2,133.95

TM991502 12-Pack—\$3,166.95

MINDSTORMS® Education Set Plus Sound Sensor

Instead of a charger, these special packs include an extra *NXT Sound Sensor* in its place.

Ages 8+

TM991503 MINDSTORMS® Education Set Plus Sound Sensor Pack—\$279.95

TM991504 4-Pack—\$1,112.95

TM991505 8-Pack—\$2,203.95

TM991506 12-Pack—\$3,270.95

MINDSTORMS® Education Sets Plus Temperature Sensor

Instead of a charger, these special packs include an *NXT Temperature Sensor* in its place.

Ages 8+

TM991826 MINDSTORMS® Education Set Plus Temperature Sensor Pack—\$294.95

TM991821 4-Pack—\$1,156.95

TM991822 8-Pack—\$2,288.95

TM991823 12-Pack—\$3,397.95

MINDSTORMS® Education Set Plus Touch Sensor

Instead of a charger, these special packs include an extra *NXT Touch Sensor* in its place.

Ages 8+

TM991495 MINDSTORMS® Education Set Plus Touch Sensor Pack—\$279.95

TM991496 4-Pack—\$1,077.95

TM991497 8-Pack—\$2,133.95

TM991498 12-Pack—\$3,166.95



Charger not included.

See page 33.



HiTechnic IRLink Sensor

The *HiTechnic IRLink Sensor* uses infrared signals to communicate with the MINDSTORMS® RCX and the LEGO® Power Function system used in the *Simple and Motorized Mechanisms Set*.
Ages 8+

TM991453—\$54.95

TM991626 4-Pack—\$215.95

TM991627 8-Pack—\$426.95

TM991628 12-Pack—\$633.95



HiTechnic EOPD Sensor

The *EOPD*, or *Electro Optical Proximity Detector*, uses an internal light source to detect the presence of a target or determine changes in distance to a target. Targets can be accurately detected from distances up to about eight inches (20 cm), depending on the target size, shape, and reflective qualities.

Ages 8+

TM991645—\$54.95

TM991654 4-Pack—\$215.95

TM991655 8-Pack—\$426.95

TM991656 12-Pack—\$633.95

HiTechnic Gyro Sensor

The *HiTechnic Gyro Sensor* contains a single-axis gyroscopic sensor that detects rotation and returns a value that represents the number of degrees per second of rotation, enabling the *NXT* to measure the additional dimension of rotation.

Ages 8+

TM991380—\$54.95

TM991632 4-Pack—\$215.95

TM991633 8-Pack—\$426.95

TM991634 12-Pack—\$633.95

HiTechnic Compass Sensor

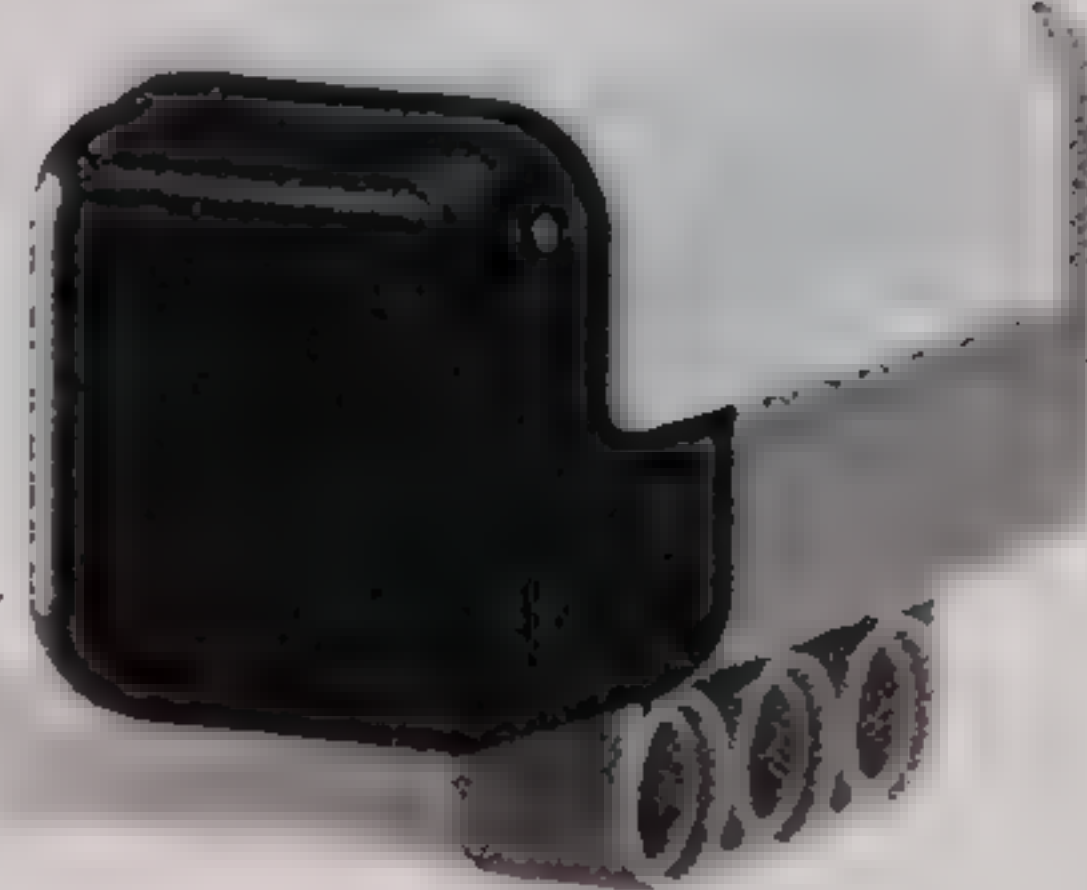
This digital compass measures Earth's magnetic field in order to provide accurate navigation to your *NXT* projects.
Ages 8+

TM991324—\$54.95

TM991629 4-Pack—\$215.95

TM991630 8-Pack—\$426.95

TM991631 12-Pack—\$633.95



HiTechnic IRSeeker Sensor

The *IRSeeker V2* has enhanced modes that detect modulated IR signals and filters out background signals, giving superior performance in brightly lit rooms and sunny locations. With a specially designed curved lens and five internal detectors, the *IRSeeker V2* has a 240-degree view, making it perfect for playing robot soccer with the *Infrared Electronic Ball*.

Ages 8+

TM991379—\$49.95

TM991635 4-Pack—\$195.95

TM991636 8-Pack—\$387.95

TM991637 12-Pack—\$575.95



HiTechnic Magnetic Sensor

The sensor detects magnetic fields that are present around the front of the sensor in a vertical orientation.

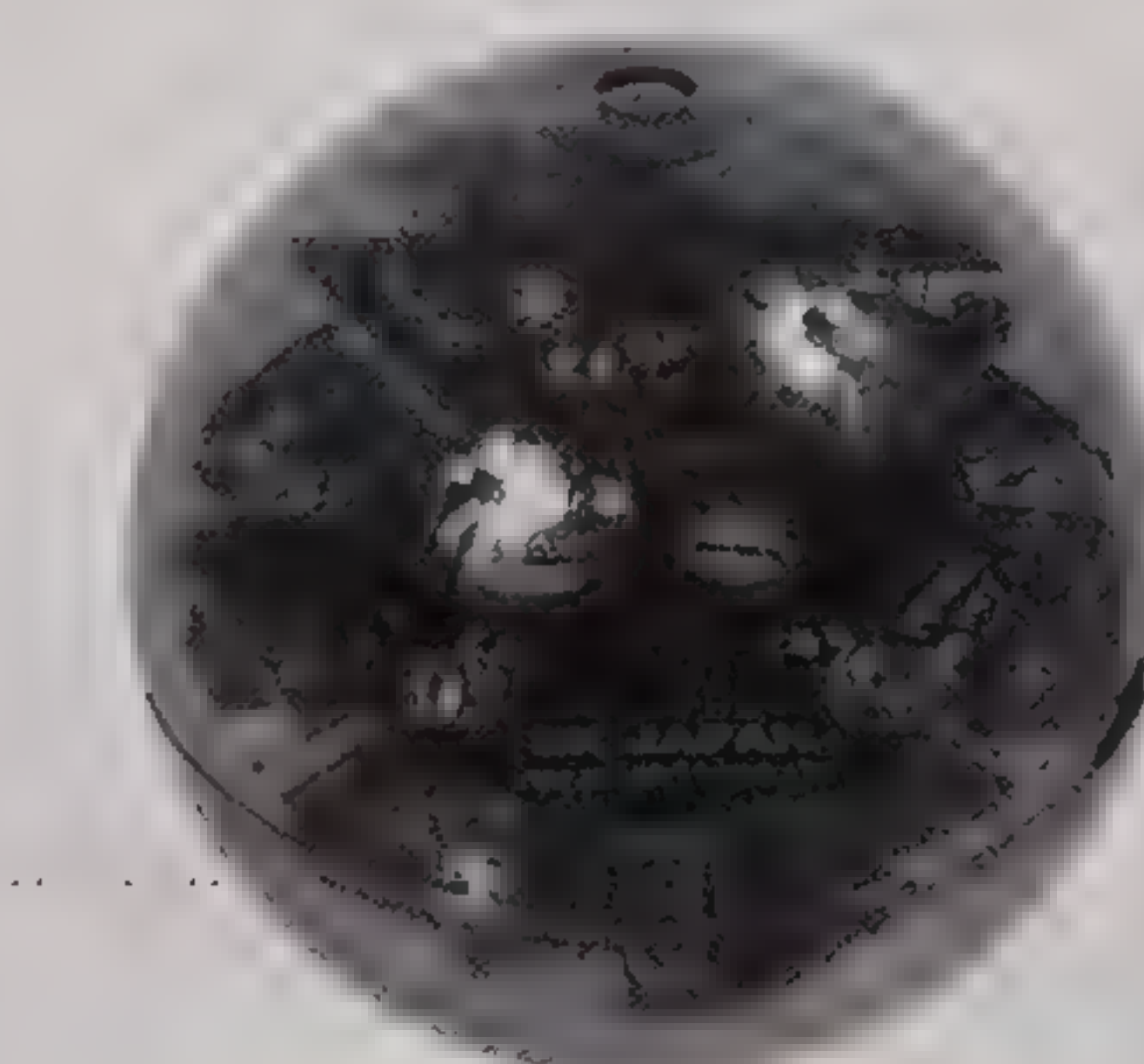
Ages 8+

TM991786—\$22.95

TM991827 4-Pack—\$96.95

TM991828 8-Pack—\$193.95

TM991829 12-Pack—\$287.95



Infrared Electronic Ball

Pair it with the *HiTechnic IRSeeker Sensor*, and your students can have a soccer showdown or create an infrared beacon for their robot to find!

Ages 8+

TM991458—\$79.95



HiTechnic Barometric Sensor

The *HiTechnic Barometric Sensor* can be used to read both atmospheric pressure and temperature.
Ages 8+

TM991961—\$54.95

TM991962 4-Pack—\$215.95

TM991963 8-Pack—\$426.95

TM991964 12-Pack—\$633.95





Codatex RFID Sensor

The *Codatex RFID Sensor* works with 125 kHz transponders and can read five-byte transponder numbers into the *NXT Intelligent Brick*. The *RFID Sensor* has three different reading modes: single read, continuous read, and stop.

Ages 8+

TM991461—\$139.95

HiTechnic Acceleration Sensor

The *HiTechnic Acceleration Sensor* measures acceleration in three axes – x, y, and z. It also measures tilt along each axis. Using the sensor, you can measure the acceleration of your robot in the range -2g to +2g, with scaling of approximately 200 counts per g.

Ages 8+

TM991349—\$54.95

TM991620 4-Pack—\$215.95

TM991621 8-Pack—\$426.95

TM991622 12-Pack—\$633.95



HiTechnic IRReceiver Sensor

The *IRReceiver* decodes commands from a *Power Functions Remote Control*, and your *NXT* program can use the commands to directly control *NXT* motors or to control other functions in your program.

Ages 8+

TM991646—\$49.95

TM991657 4-Pack—\$195.95

TM991658 8-Pack—\$387.95

TM991659 12-Pack—\$575.95



HiTechnic Color Sensor

Detect an extended range of more than 15 target colors and program your *NXT* robot to react to each color.

Ages 8+

TM991348—\$54.95

TM991623 4-Pack—\$215.95

TM991624 8-Pack—\$426.95

TM991625 12-Pack—\$633.95



HiTechnic Sensor Multiplexer

The *HiTechnic Sensor Multiplexer* allows up to four sensors to be connected to one *NXT Intelligent Brick* sensor port. Connect more than one *HiTechnic Sensor Multiplexer* for more connectivity.

Ages 8+

TM991560—\$57.95

HiTechnic Angle Sensor

The *HiTechnic Angle Sensor* provides a method to determine the angular position and rotation speed of an axle.

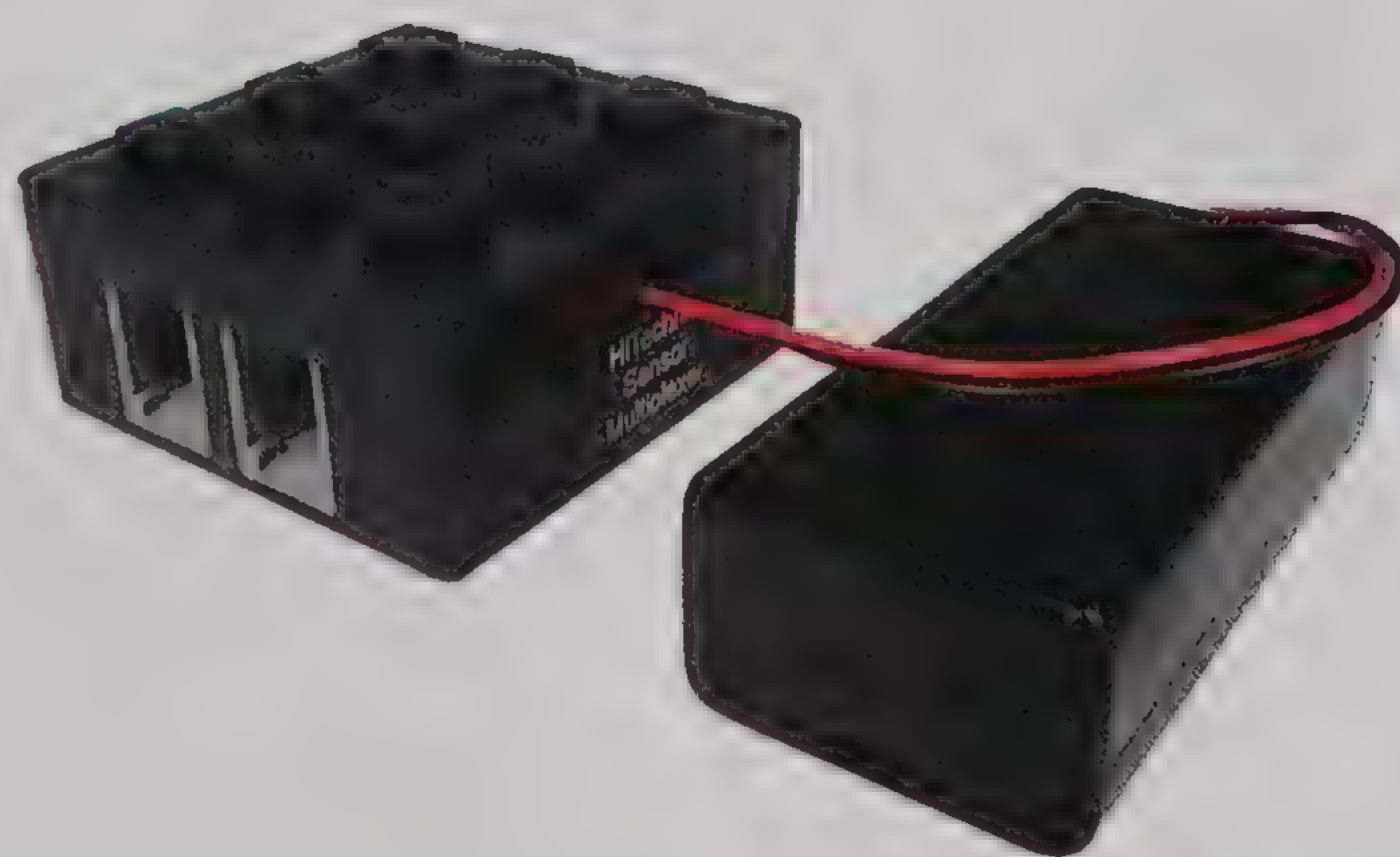
Ages 8+

TM991647—\$44.95

TM991660 4-Pack—\$176.95

TM991661 8-Pack—\$348.95

TM991662 12-Pack—\$517.95



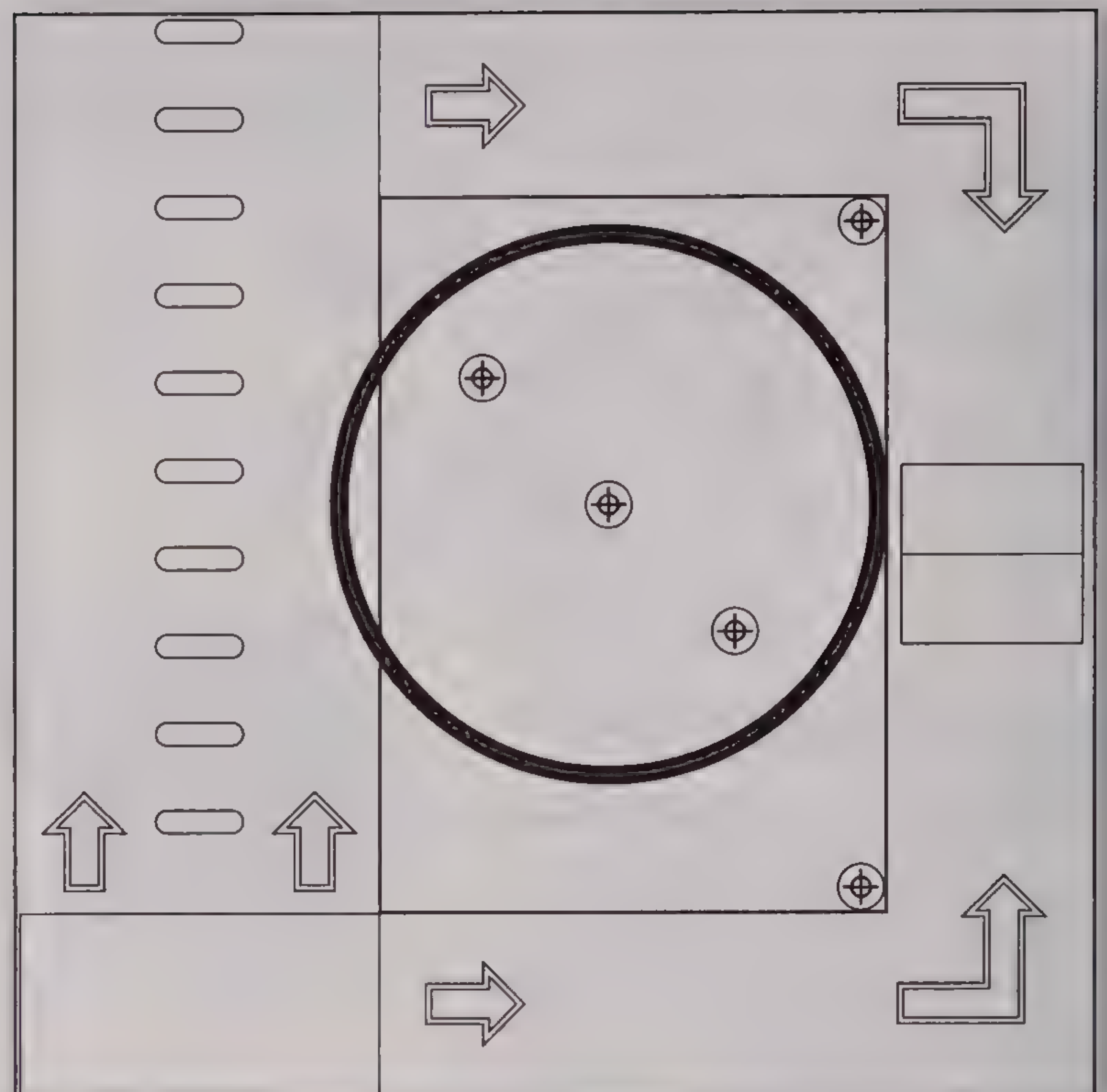
All HiTechnic sensors use a standard *NXT* cable and are housed in the *MINDSTORMS*® sensor housing. Sensor blocks are available for free download. For details visit LEGOeducation.us/hitechnic.





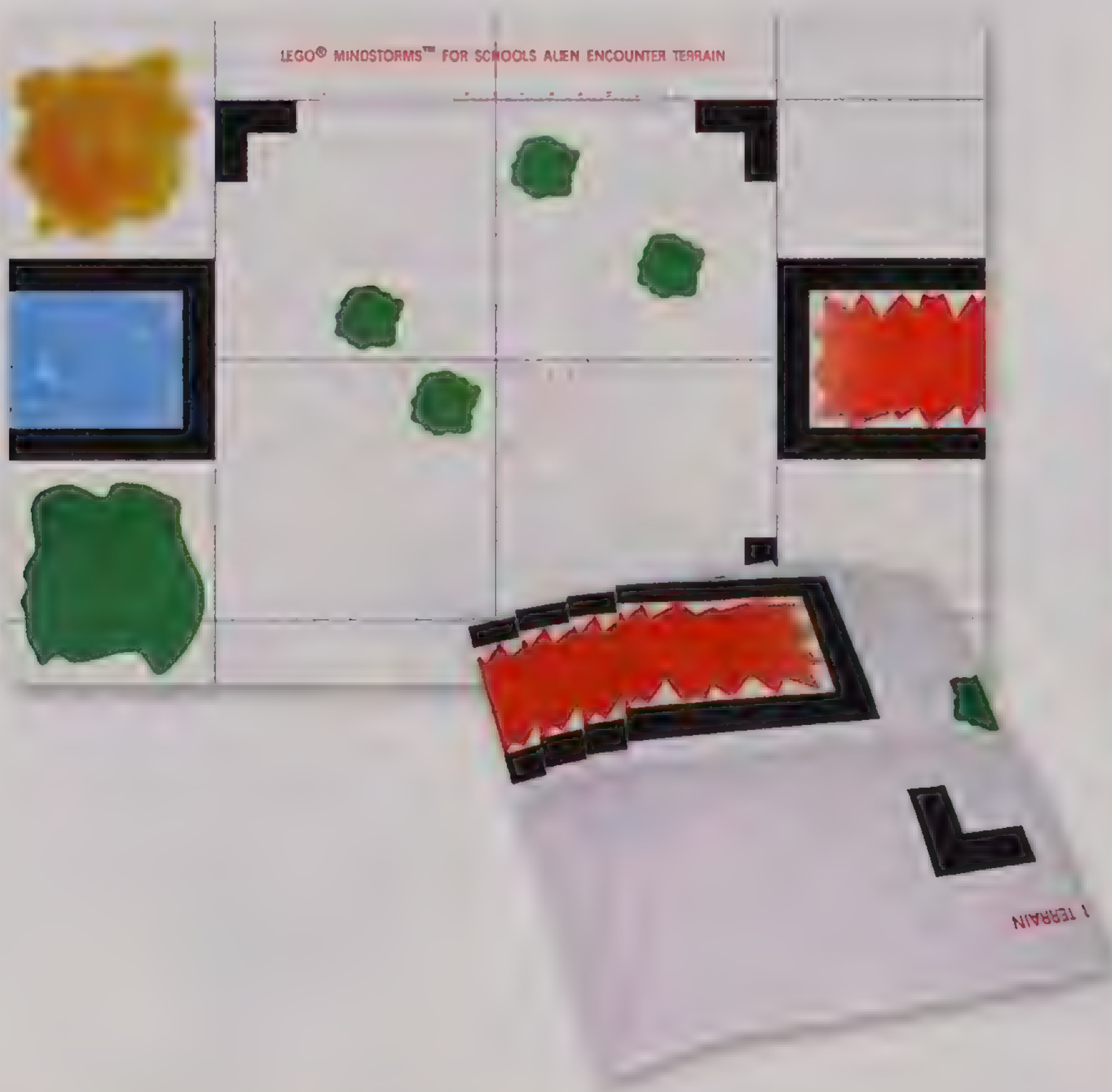
Robotics Activity Mat

This activity mat is perfect for advanced line-following activities, distance measuring, light sensor activities, and much more! The mat is made out of durable vinyl and measures 4' x 4'.
TM991897—\$50



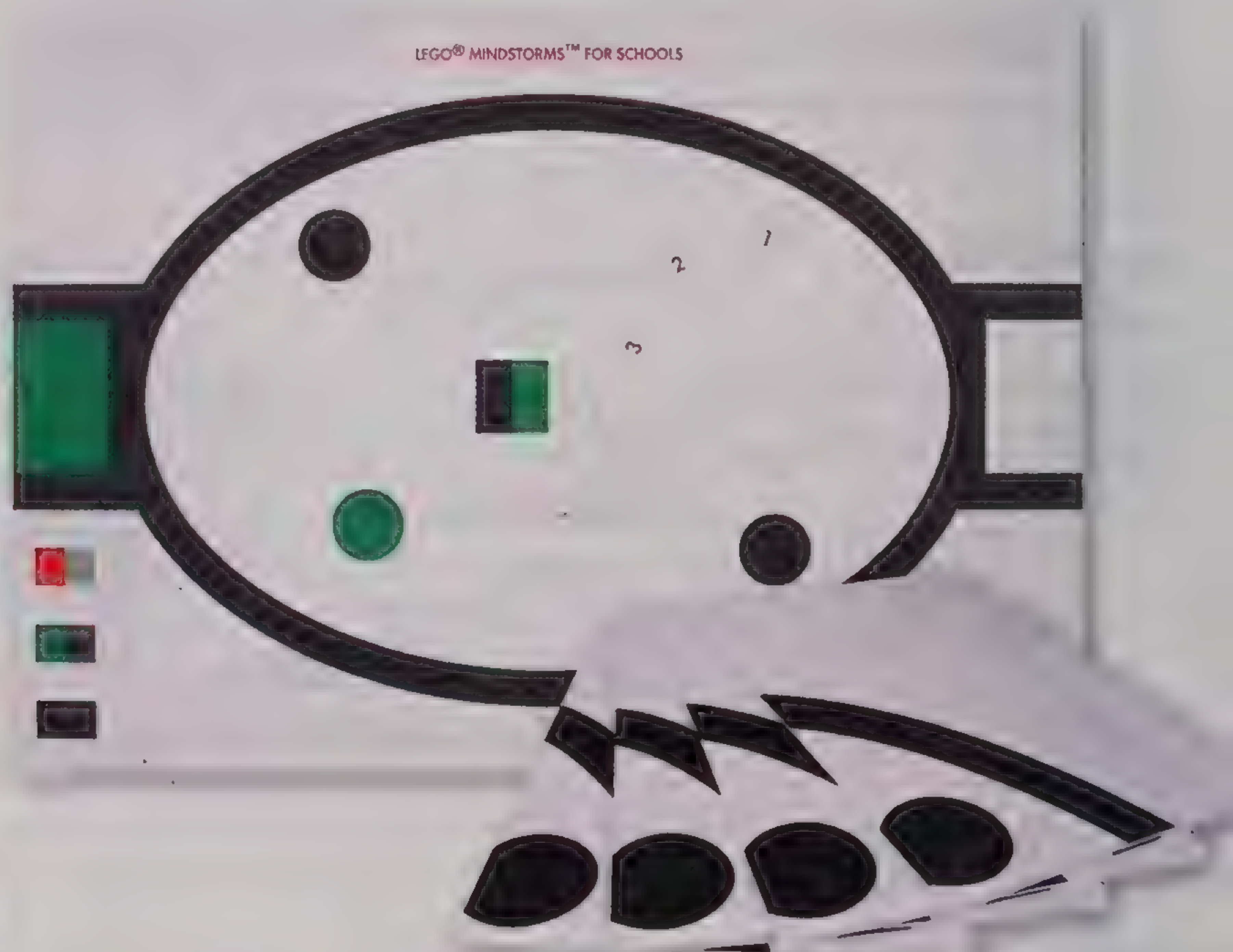
Race Against Time Mat 2

Originally created for the Race Against Time activity pack, this mat is now available for creating robotics activities and challenges of your own using the mat's preprinted lines and arrows. The mat is made of durable vinyl and measures 4' x 4'.
TM991896—\$40



Alien Encounter Terrain Mats

Originally designed for use with the *Alien Encounter Activity Pack*, these mats can take on many applications in your robotics classroom. Mats are made of high-quality paper with full-color illustrations and provide a great activity surface for a variety of robots. Comes with five mats; each mat measures 35" x 25".
TM991126—\$13



Robotics Projects Mat

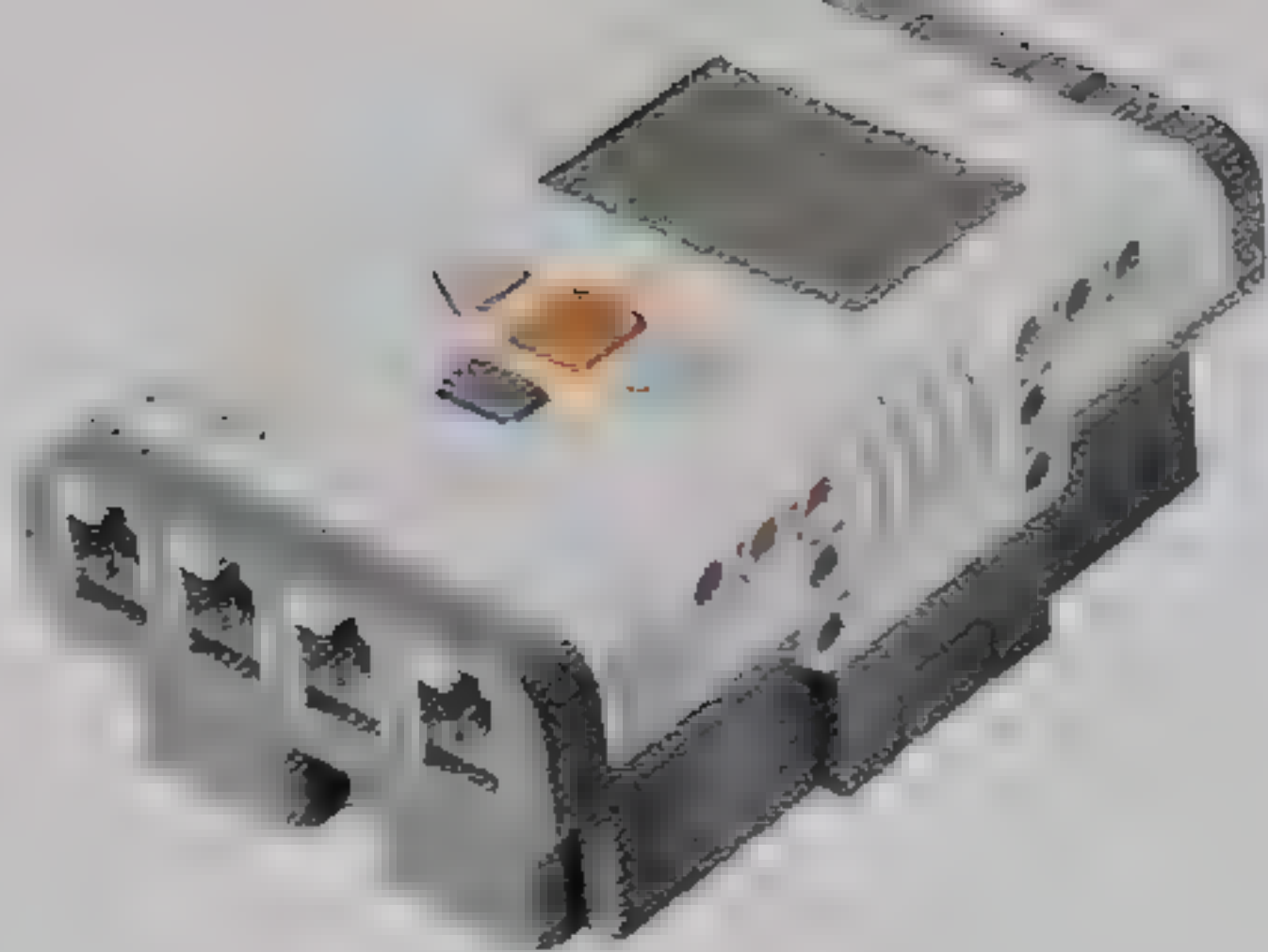
Add this mat to your collection of robot activity surfaces. Though originally designed for use with the *Robotics Projects Activity Pack*, this mat will come in handy in a variety of robotics activities. Comes with five mats made of high-quality paper; each mat measures 35" x 25".
TM991247—\$13

NXT Intelligent Brick

The programmable, 32-bit brick features four input ports for taking in data and three output ports for distributing the data as commanded. Students transfer their programs from the computer to the brick using a USB cable or Bluetooth technology. The brick is powered by six AA batteries or the *NXT Rechargeable DC Battery* (979693), each sold separately.

Ages 8+

TM979841—\$149.95



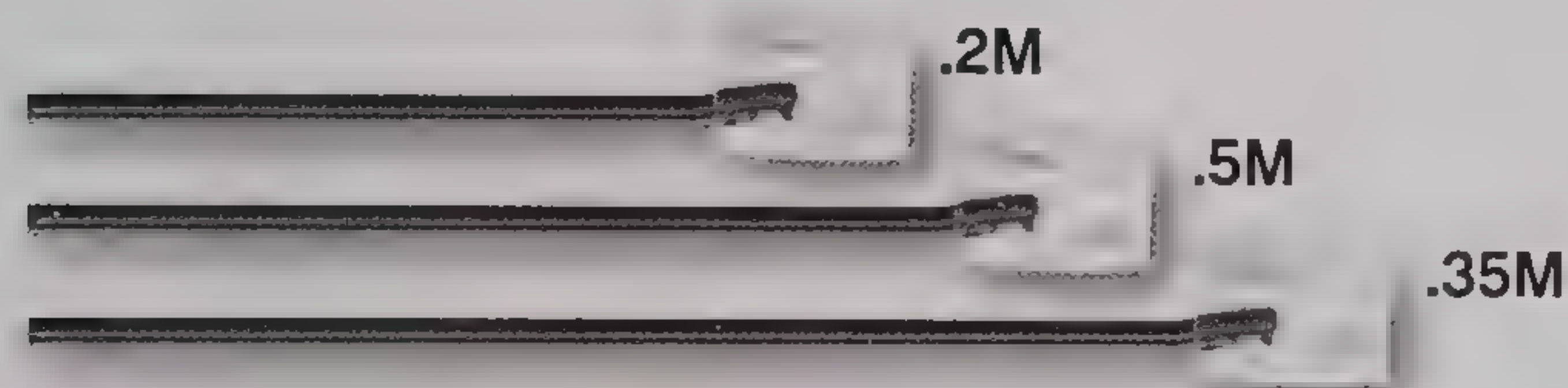
LEGO® MINDSTORMS® Education



PowerSquid 5 Outlet Multiplier

With the *PowerSquid*, you can easily attach five chargers to the flexible outlets. The *PowerSquid* features outlets that can accommodate standard and transformer plugs, a lighted switch with a 15-amp circuit breaker, and a four-foot, 14-gauge grounded power cord.

TM991316—\$19.99



NXT Connector Cables

Use this cable pack to supplement your cable selection. Includes one .2M cable, two .5M cables, and four .35M cables. One complete set is included in each LEGO® MINDSTORMS® Education *NXT Base Set* (979797).

Ages 8+

TM991781—\$10

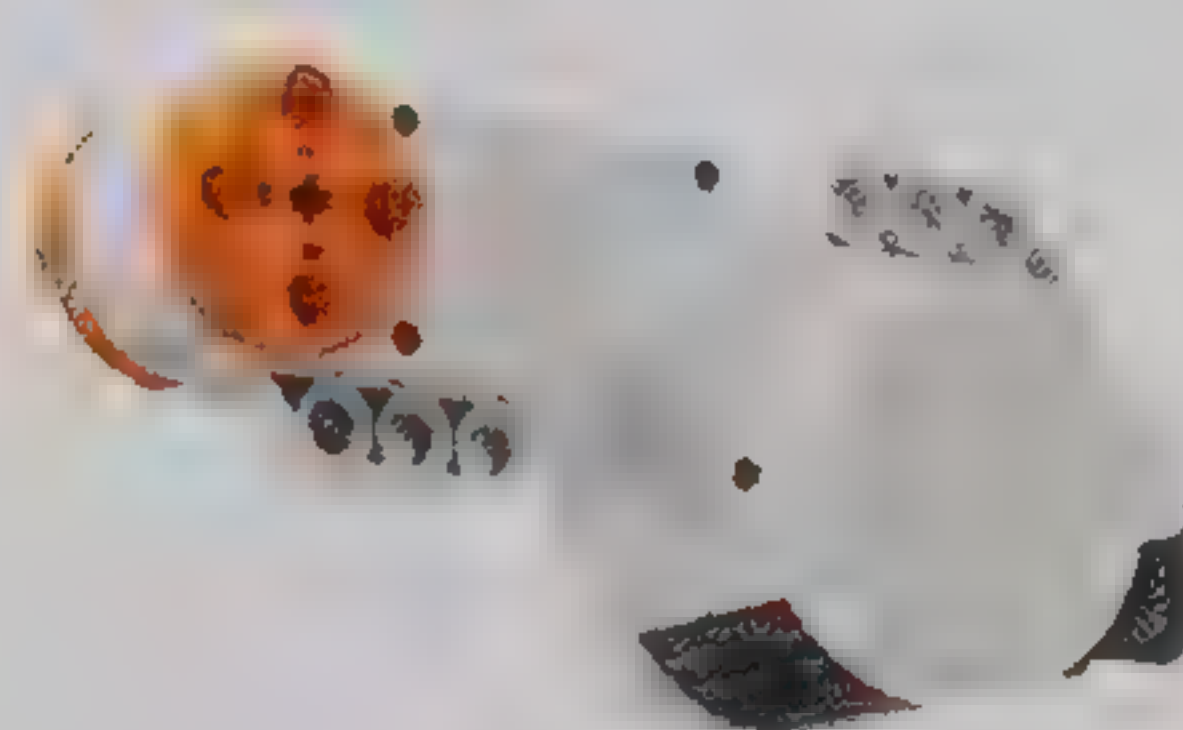
TM991534 *NXT Extended Connector Cables Set* (pkg of 4)—\$6.50

NXT Interactive Servo Motor

The servo motor has a built-in rotation sensor that measures speed and distance, allowing motor control within one degree of accuracy. Several motors can be aligned to drive at the same speed.

Ages 8+

TM979842—\$19.95



NXT Bluetooth Dongle

The Abe USB Bluetooth Dongle adapter enables wireless communication between your PC or Mac and the *NXT Intelligent Brick*.

Ages 8+

TM979847—\$39.95

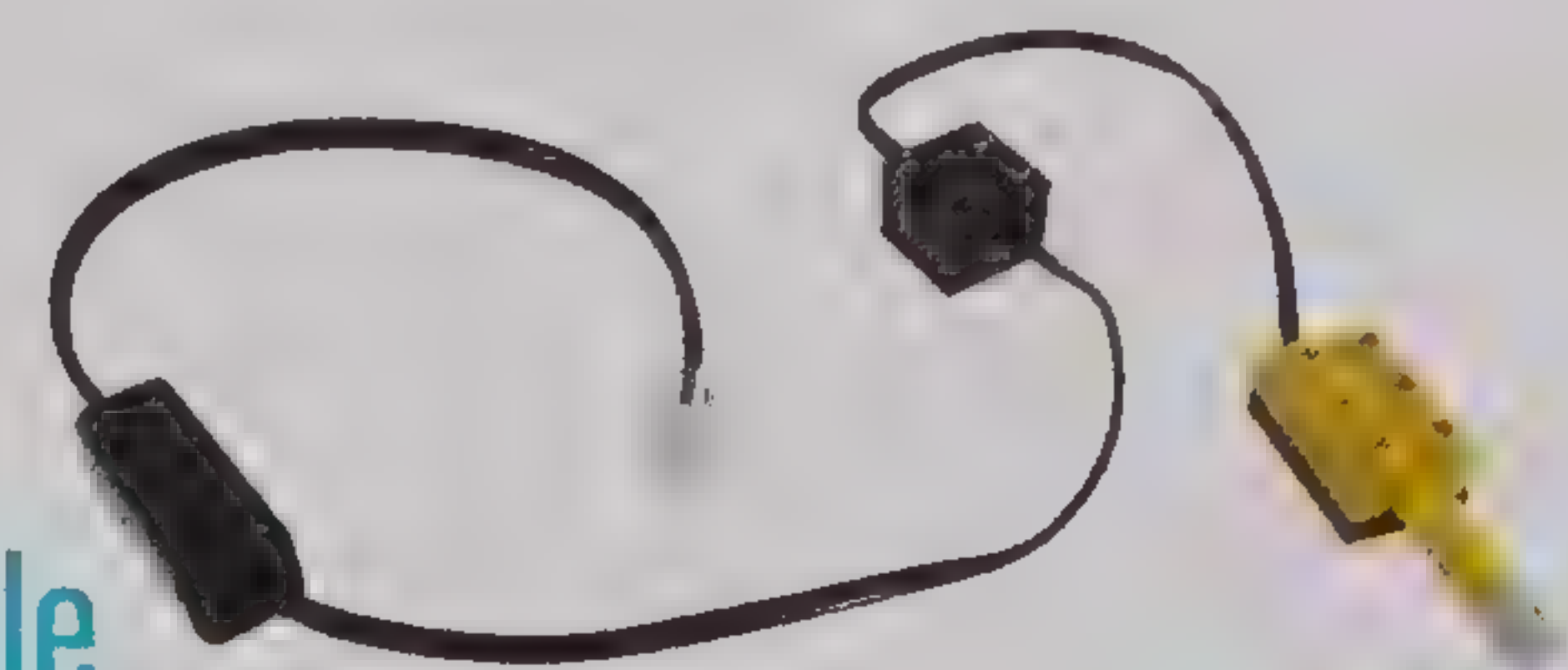


NXT Conversion Cable

With this cable, you can use your legacy *RCX* sensors and motors with the *NXT Intelligent Brick*!

Ages 8+

TM770323 (pkg of 3)—\$10



NXT Rechargeable DC Battery

Designed for use with the *NXT Intelligent Brick*, this DC lithium ion polymer battery with 2100 mAh of power is an alternative to AA batteries and replaces the original AC version of the *NXT Rechargeable Battery*. Estimated recharge time is 4-5 hours. **The battery requires the *DC Charger* (778887), sold separately, and is not compatible with the *AC Charger* (979833).** One *NXT Rechargeable DC Battery* and *DC Charger* are included in the LEGO® MINDSTORMS® Education *NXT Base Set*.

Ages 8+

TM979693—\$59.95

TM991957 4-Pack—\$236.95

TM991958 8-Pack—\$467.95

TM991959 12-Pack—\$694.95



DC Charger

Recharge your battery! This standard 10V DC transformer plugs into an AC outlet to recharge your *Rechargeable DC Battery* (979693) for the *NXT Intelligent Brick* or your *Power Functions Rechargeable Battery Box* (778878), sold separately.

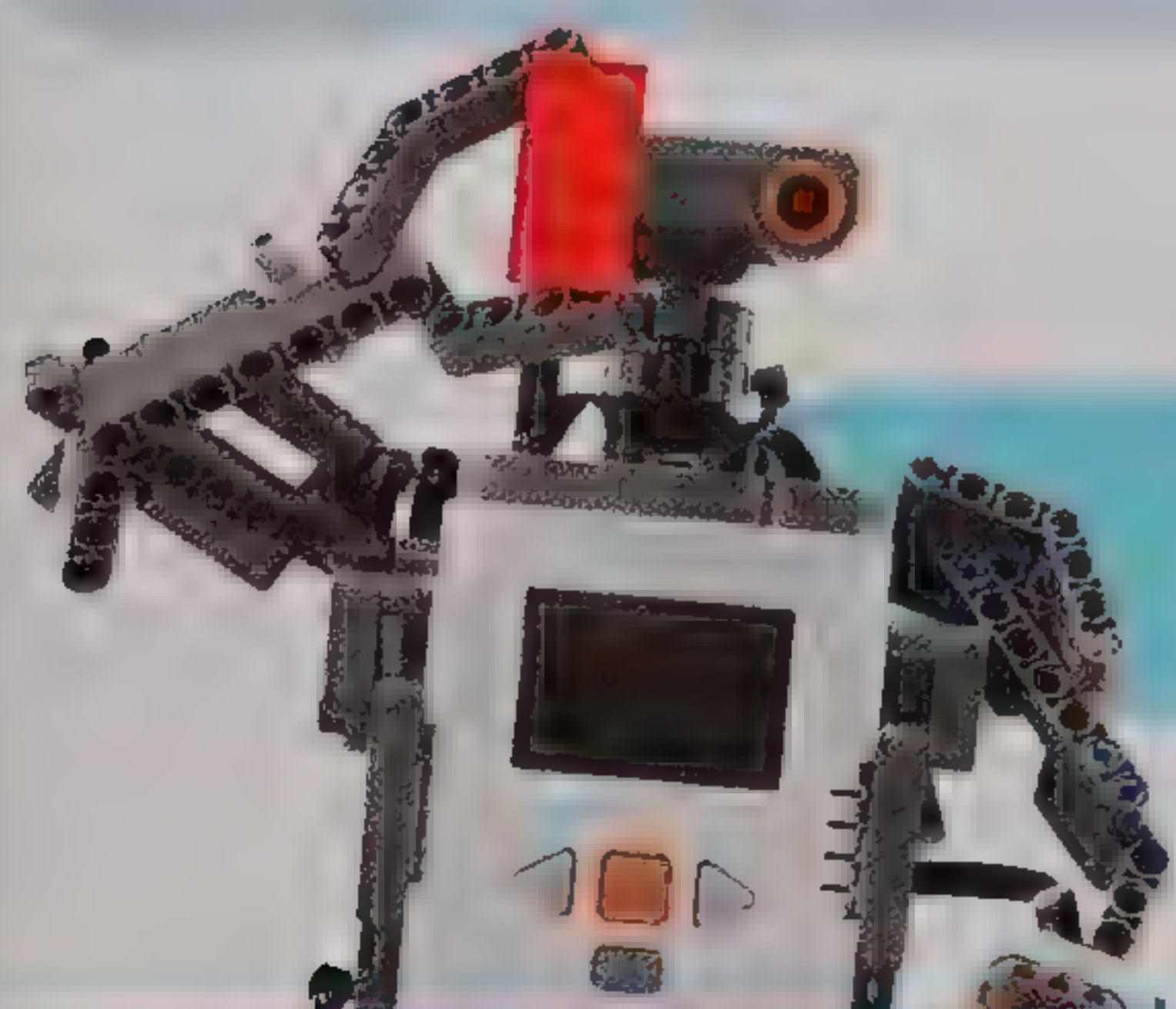
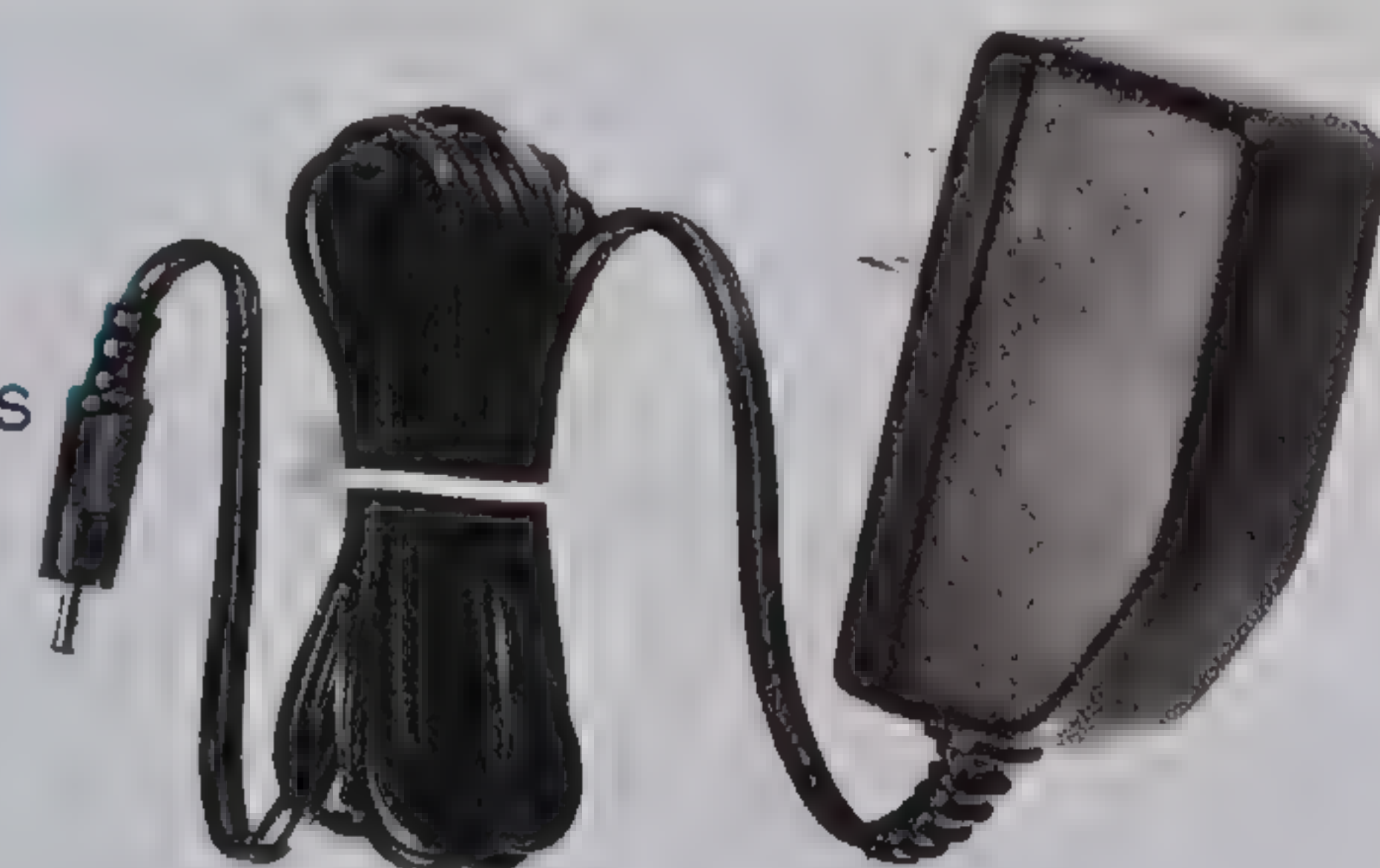
Ages 7+

TM778887—\$24.95

TM991738 4-Pack—\$97.95

TM991739 8-Pack—\$193.95

TM991740 12-Pack—\$287.95



The LEGO® MINDSTORMS® Education *NXT Base Set* comes with the eco-friendly *NXT Rechargeable DC Battery* and *DC Charger*, which are not compatible with the *AC Battery* and *Charger*.



As Flexible As Your Imagination.

TETRIX® by Pitsco, a rugged metal building system, is a great addition to any high school MINDSTORMS® NXT robotics classroom. With powerful DC and servo motors and metal gears, your students can now build more versatile and robust robots.



Start with ...

LEGO® MINDSTORMS® Education
NXT Base Set



TETRIX® Education
Base Set



+



NI LabVIEW™ for
LEGO® MINDSTORMS®

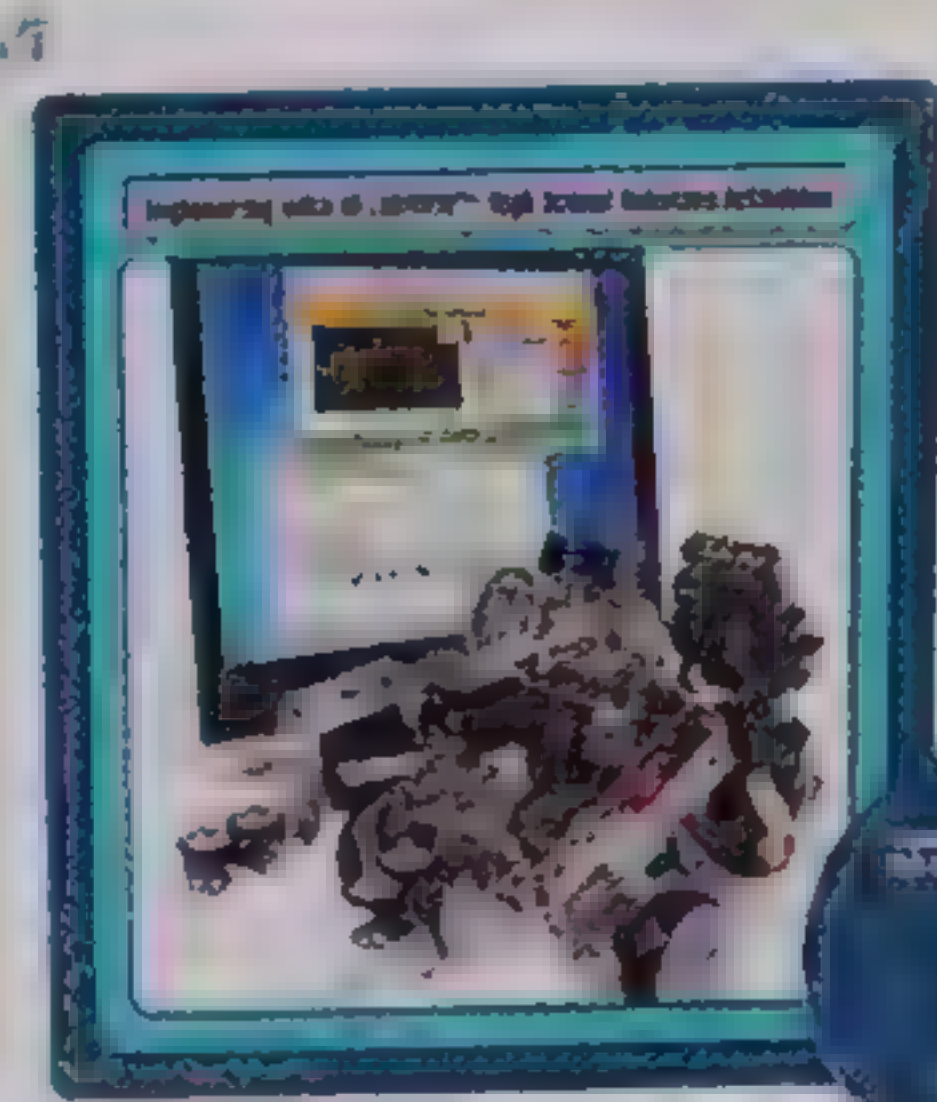
or



ROBOTC® 3.0
Software

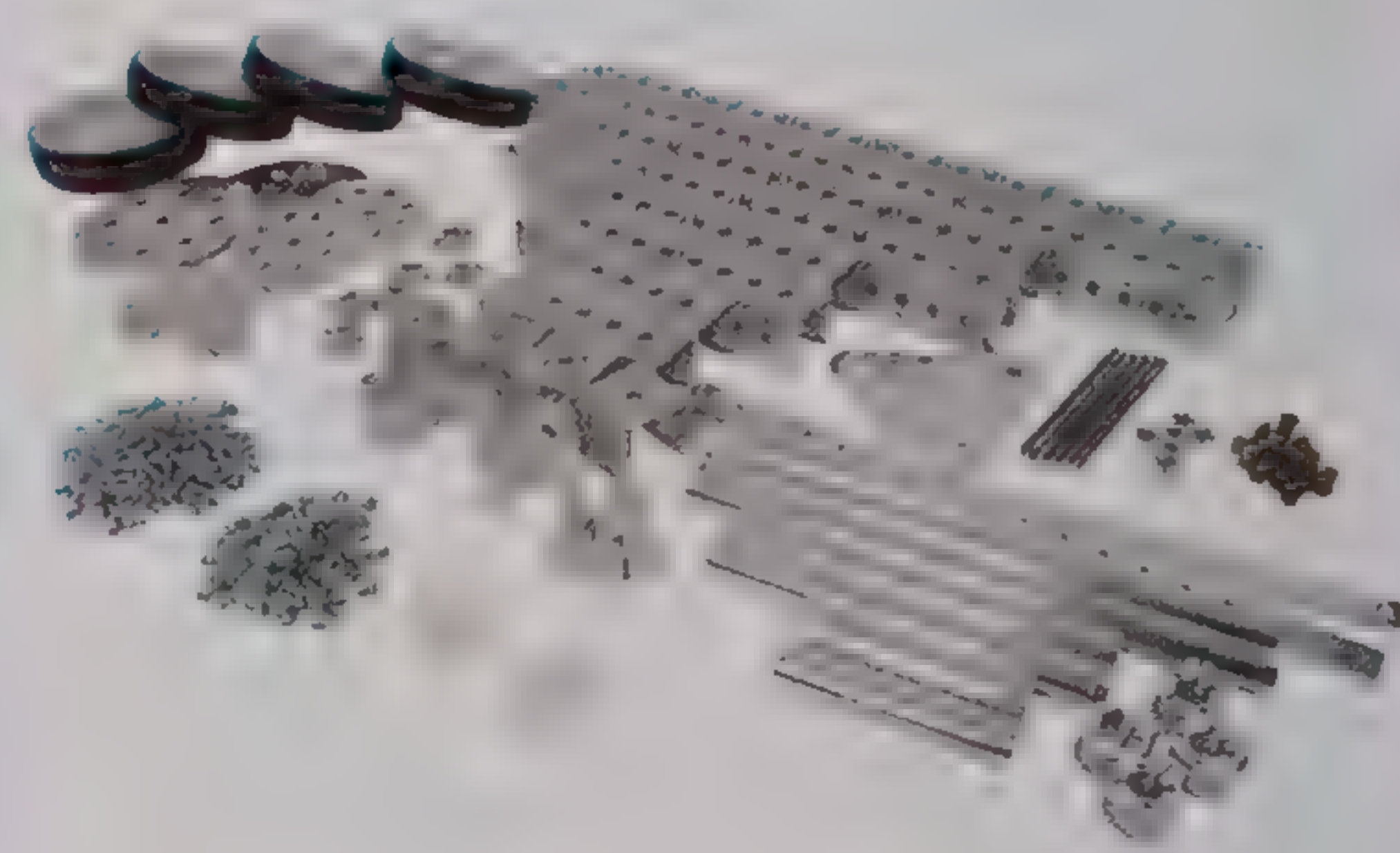
Add Curriculum ...

Engineering with NI LabVIEW and
ROBOTC: Curriculum for LEGO
MINDSTORMS Education with TETRIX



Add Hardware ...

TETRIX® Resource Set and Spare Parts



Robotics For All Ages:

LEGO® Education delivers the latest in robotics curriculum at all age levels. Teachers from elementary schools to college campuses can integrate materials that prepare students for a lifetime of learning.

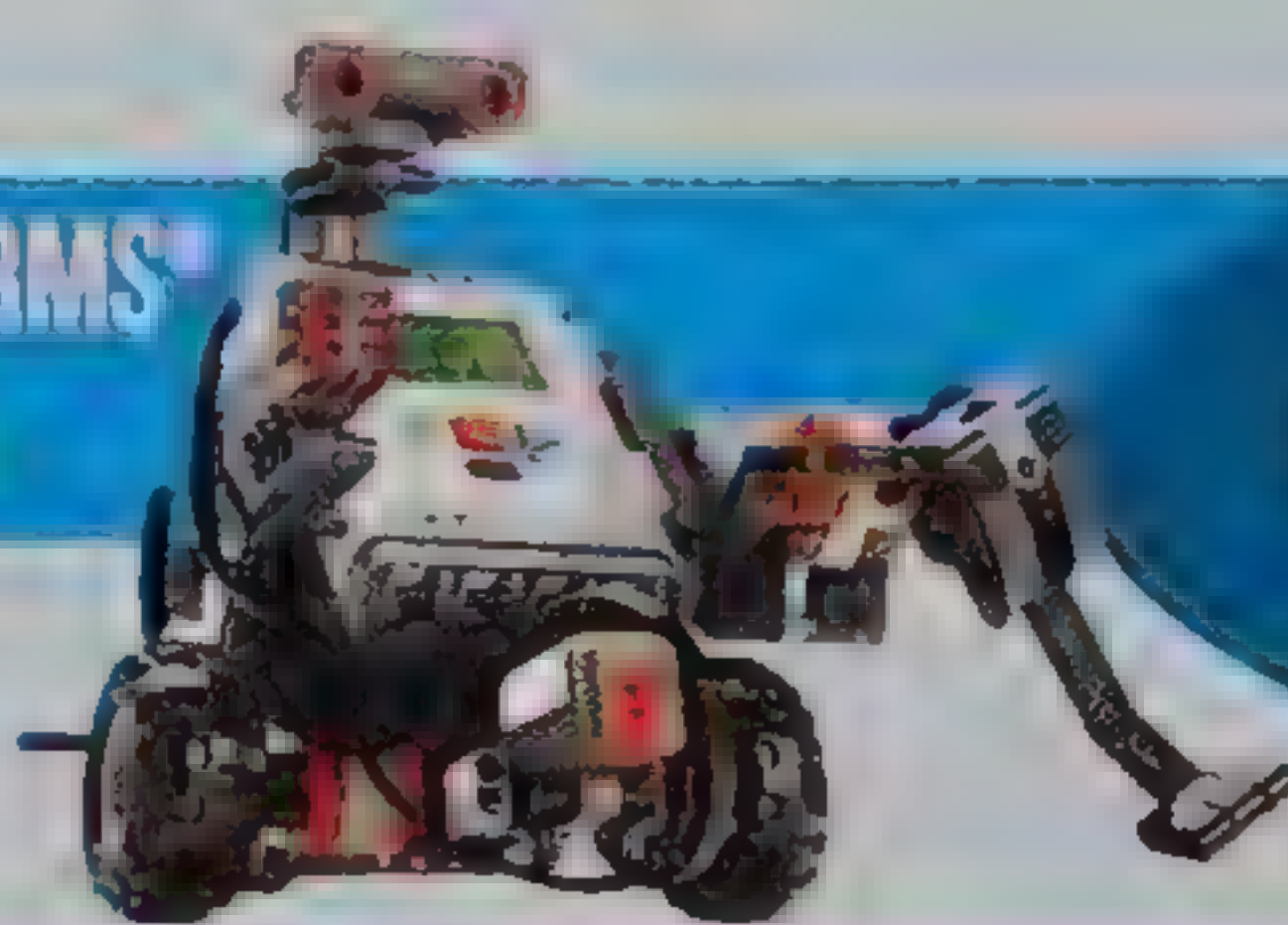
LEGO® Education WeDo™
Robotics

Grades 2-5

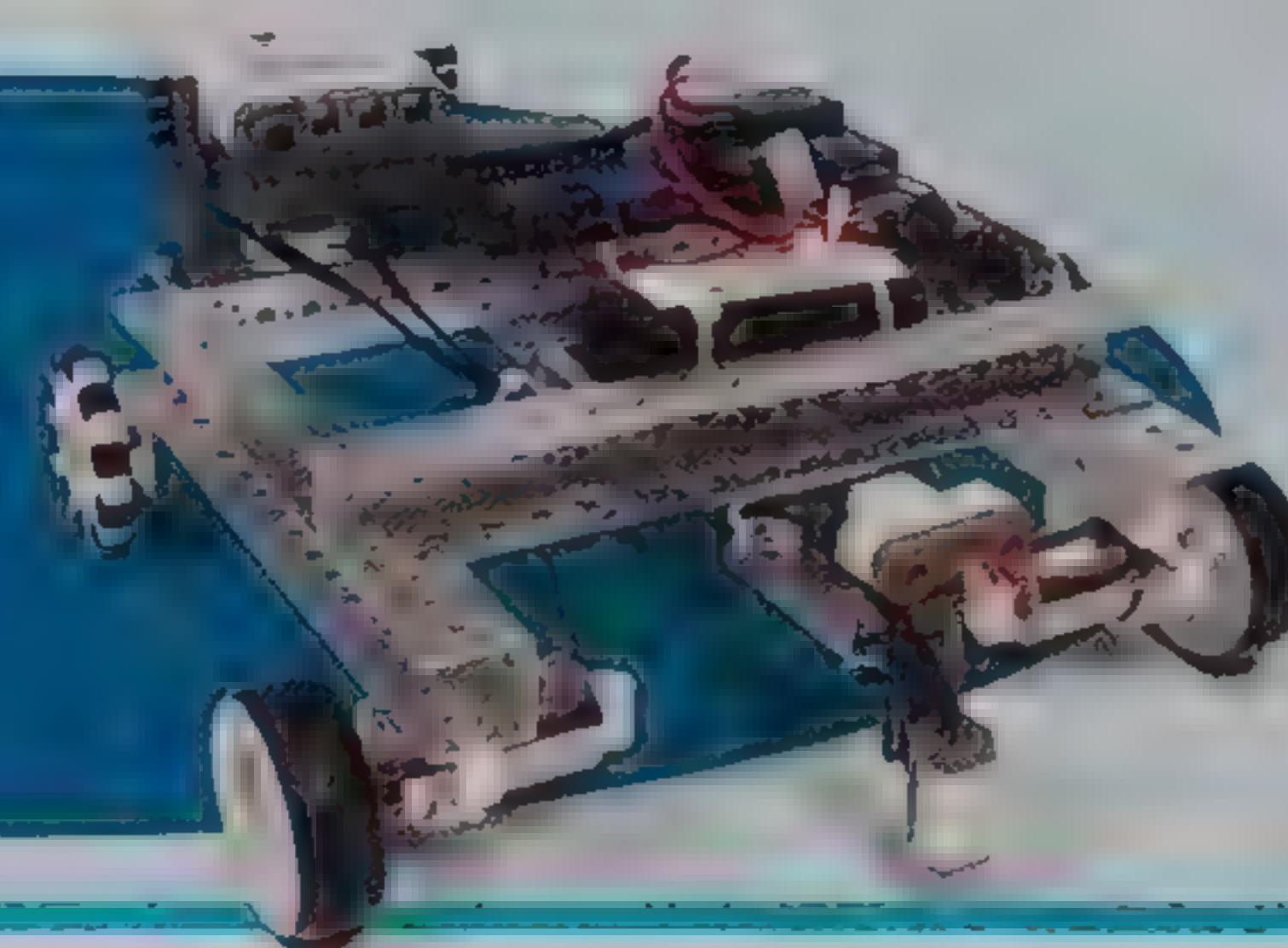


LEGO® MINDSTORMS®
Education

Grades 6-12



LEGO® MINDSTORMS®
Education with TETRIX®





Robotics Impact Student Success

“LEGO® Education products have a profound impact on students.” They make it easy to motivate students to learn new concepts, such as trigonometry and physics, without them realizing it. Instead of telling the class they are doing a trigonometry lesson and watching them panic, I tell them they are going to figure out how to move a robot from Point A to Point B, and the students get excited. They go home to their parents when the lesson is completed and say, **“I did it!”**

In fact, many parents have come up and said, **“What have you done with my kid? He is so motivated and his grades are improving!”** This motivation can be credited to the fact that the student caught a vision for his life in engineering and now he can see that his vision is attainable. One particular student was struggling with his grades as a freshman. After becoming involved with LEGO Education products, he is now applying to MIT as a senior. That is a profound impact.

Another impact that can be seen from using LEGO Education products is retention. There is a particular TETRIX® assignment

I use where students have to launch a ball a specific distance with a specific arch. By using the motors and gears, students are able to mathematically figure out velocity by finding the correct acceleration and deceleration, which is much more effective than guessing. This lesson makes it possible for students to apply physics in a physical way. It is no longer bookwork, it is a challenge that the student was able to accomplish. The students will not only remember the physics lesson forever, they will also remember the feeling of accomplishment brought to them by LEGO Education products.

“ The kids' grades were literally affected. They were learning without even knowing it. And then when they'd take the test, they knew this stuff without having to try to do the memorizing. **”**

Matthew Collier, Classroom Teacher
LAUNCH Senior High School, Erie, CO

STEM Learning Targets

Engineering Process

- Learning project management and time management
- Experiencing iterative testing and problem-solving strategies
- Exploring different types of analysis
- Evaluating design alternatives based on analysis
- Communicating results through reports and presentation

Technology

- Advanced NXT programming

Science

- Interpreting data readings
- Analyzing readings



Harness the power of MINDSTORMS® Education and TETRIX® for gear-grinding fun with FIRST® Tech Challenge! Learn more at usfirst.org.





TETRIX® Education Base Set

The TETRIX® Education Base Set has everything needed to build metal TETRIX robots that can be controlled by the LEGO® MINDSTORMS® NXT Intelligent Brick. This set includes a Getting Started Guide, developed by LEGO Education, that introduces users to the TETRIX building system and provides key hardware basics and select programming fundamentals for first-time users. Also included in the set:

- TETRIX building system
- TETRIX Hard Point Connectors
- HiTechnic DC Motor Controller
- HiTechnic Servo Controller
- 12V Rechargeable NiMH Battery Pack

Key Learning Targets:

- Interpreting and analyzing data readings
- Project management and time management
- Iterative testing and problem-solving strategies
- Evaluating design alternatives based on analysis
- Communicating results through reports and presentation

LEGO MINDSTORMS Education NXT Base

Set and Software sold separately.

Ages 14+

TM739143—\$599.95

TM991573 2-Pack—\$1,181.95 **Save \$17**

TM991574 4-Pack—\$2,351.95 **Save \$47**

TM991575 6-Pack—\$3,509.95 **Save \$89**

TM991576 8-Pack—\$4,655.95 **Save \$143**

TM991577 10-Pack—\$5,789.95 **Save \$209**

TM991578 12-Pack—\$6,911.95 **Save \$287**



MINDSTORMS® Education Base Set with TETRIX®

Get both the TETRIX® Education Base Set and LEGO® MINDSTORMS® Education NXT Base Set in these convenient packs! Software sold separately. Ages 14+

TM991520 MINDSTORMS® Education Base Set with TETRIX®—\$871.95 **Save \$7**

TM991579 MINDSTORMS® Education Base Set with TETRIX® 2-Pack—\$1,733.95 **Save \$25**

TM991580 MINDSTORMS® Education Base Set with TETRIX® 4-Pack—\$3,449.95 **Save \$69**

TM991581 MINDSTORMS® Education Base Set with TETRIX® 6-Pack—\$5,147.95 **Save \$131**

TM991582 MINDSTORMS® Education Base Set with TETRIX® 8-Pack—\$6,828.95 **Save \$210**

TM991583 MINDSTORMS® Education Base Set with TETRIX® 10-Pack—\$8,491.95 **Save \$307**

TM991584 MINDSTORMS® Education Base Set with TETRIX® 12-Pack—\$10,136.95 **Save \$421**

Check it out!

TETRIX Getting Started Guide is available for download at TETRIXrobotics.com.



Software sold separately!

MINDSTORMS® robots with TETRIX® can be programmed with National Instruments LabVIEW™ for LEGO® MINDSTORMS (page 39) or ROBOTC® (page 41).



TETRIX® Resource Set

Add this resource set to your *TETRIX*® by Pitsco collection and build bigger and more complex robots and complete more challenging engineering projects. This set includes 40 metal building elements and comes complete with a convenient storage bin.

Ages 14+

TM731900—\$169.95

TM991585 2-Pack—\$334.95 **Save \$4**

TM991586 4-Pack—\$665.95 **Save \$13**

TM991587 6-Pack—\$994.95 **Save \$24**

TM991588 8-Pack—\$1,318.95 **Save \$40**

TM991589 10-Pack—\$1,640.95 **Save \$58**

TM991590 12-Pack—\$1,957.95 **Save \$81**



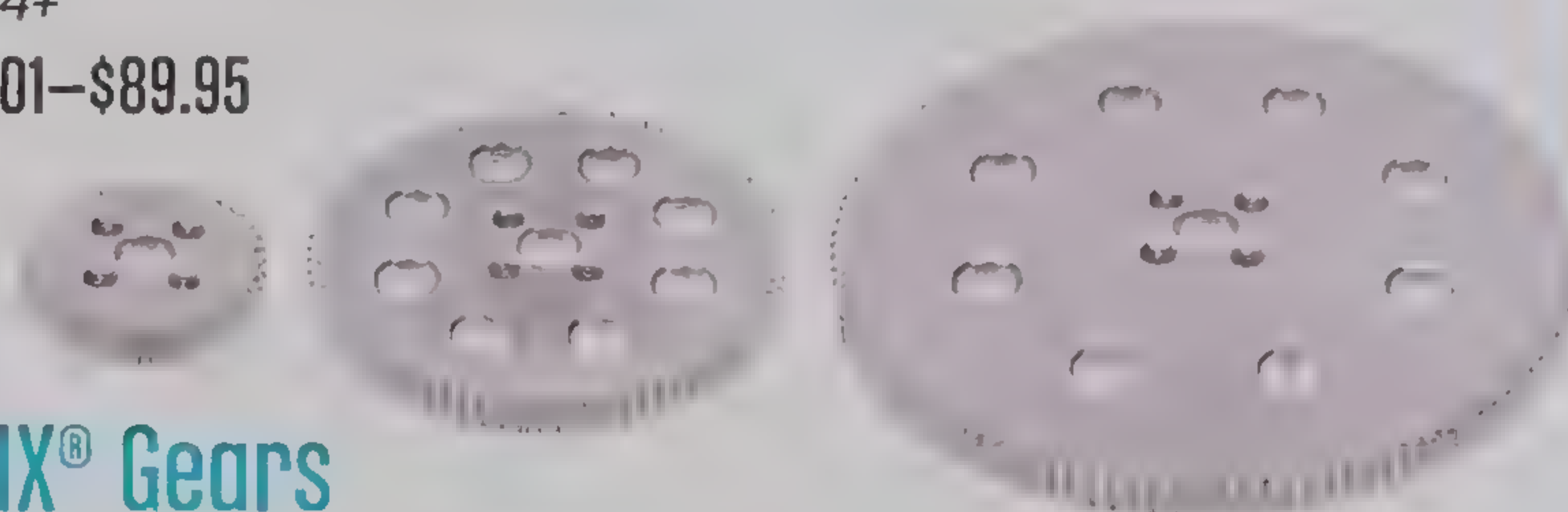
TETRIX® Gear Pack

Get all three sizes of the *TETRIX*® Gears in this one pack. Includes:

- Four 40-tooth gears
- Two 80-tooth gears
- Two 120-tooth gears

Ages 14+

TM731901—\$89.95



TETRIX® Gears

TETRIX® Gears are a step above kits and systems with plastic gears – these are made of heavy-duty aluminum and really stand up to wear and tear. Three sizes available.

Ages 14+

TM739028 (40 tooth) (pkg of 2)—\$22.95

TM739086 (80 tooth)—\$17.95

TM739085 (120 tooth)—\$27.95

TETRIX® Hard Point Connectors

The *Hard Point Connector* takes LEGO® MINDSTORMS® Education to a whole new level by allowing LEGO Technic elements to be connected to the revolutionary metal building system, *TETRIX*® by Pitsco!

Ages 14+

TM739120 (pkg of 12)—\$9.95



TETRIX® Wheel

Add some mobility to your *TETRIX*® robot with these wheels that come in two sizes.

Ages 14+

TM739025 (3")—\$15.95

TM739055 (4")—\$19.95



TETRIX® Omni Wheels

With the use of 10 rollers, these wheels have the ability to drive forward and laterally.

Ages 14+

TM731132 TETRIX® 3" Omni Wheels (pkg of 2)—\$24.95

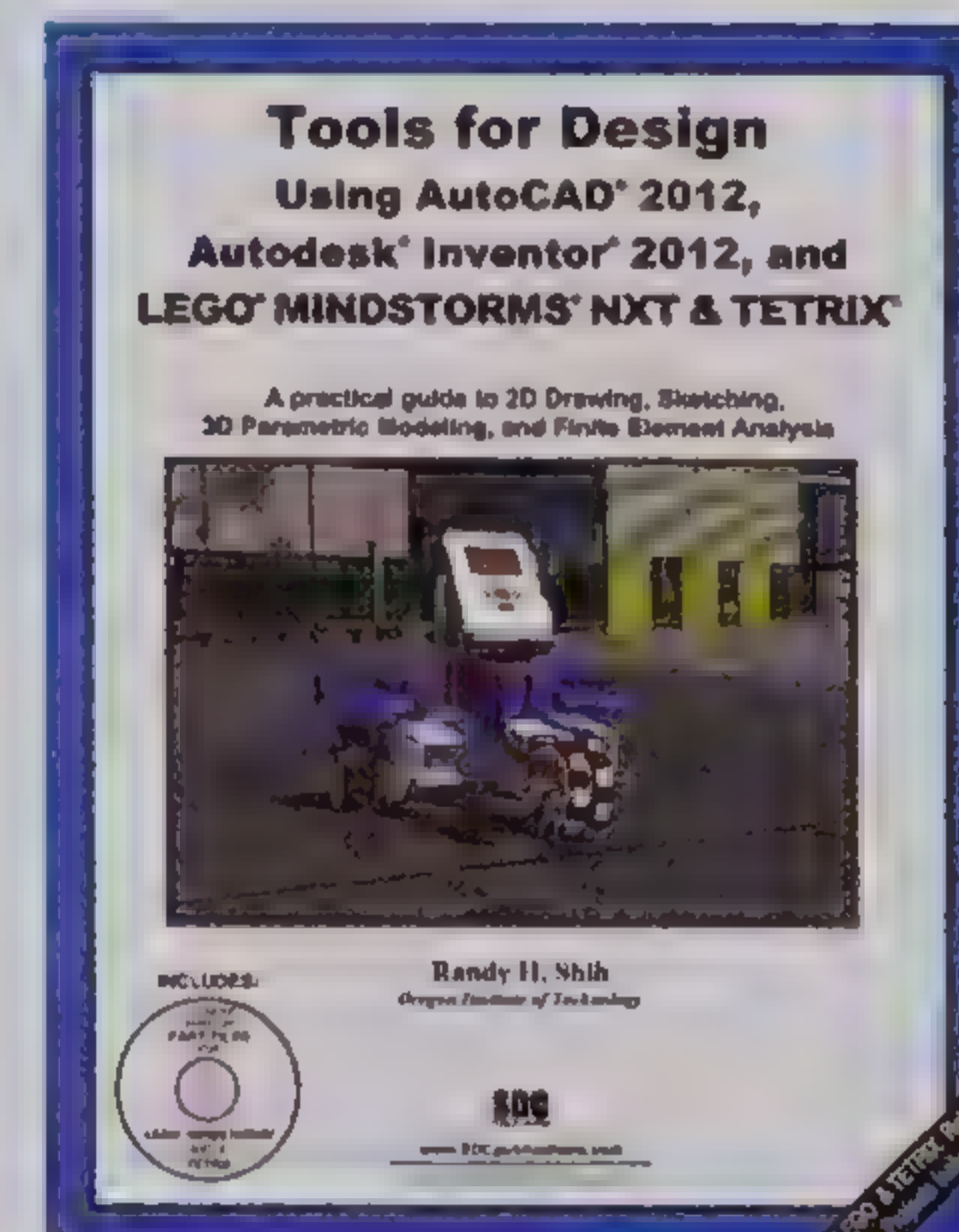
TM736466 TETRIX® 4" Omni Wheels (pkg of 2)—\$29.95

Tools For Design Using AutoCAD® 2012, Autodesk® Inventor® 2012, and LEGO® MINDSTORMS® NXT & TETRIX®

Tools for Design provides students with an introduction to 2-D drawing using *AutoCAD* and 3-D modeling using *Autodesk Inventor*. The *Autodesk Inventor* assembly modeling chapter shows students how to create robot assemblies for LEGO® MINDSTORMS® NXT and *TETRIX*® by Pitsco with files that are included with the book. Paperback, 694 pages.

Grades 9+


TM771301—\$59.95



Lean, Mean, Teaching Machines

Through our partnership, LEGO® Education and National Instruments strive to:

- Provide educators and students with industry-standard software that, when coupled with LEGO Education's versatile robotics platforms, creates unique and engaging learning experiences.
- Enrich students' understanding of STEM topics and give them access to tools that encourage them to take part in real-world challenges.
- Create activities, resources, and professional development programs that meet the needs of educators and enable them to implement our solutions effectively.



**NATIONAL
INSTRUMENTS™**



For free activities, resources, and helpful tips
visit National Instruments' Web site K12lab.com.

Colors of and decorative designs on elements may vary.



NEW

NI LabVIEW™ For LEGO® MINDSTORMS®

National Instruments *LabVIEW™* for LEGO® MINDSTORMS® software is a new, education-focused version of the company's professional *LabVIEW* graphical system design software used by scientists and engineers alike. Developed specifically for high school students to use with LEGO MINDSTORMS Education and LEGO MINDSTORMS Education with TETRIX® platforms in classrooms or after-school robotics competitions, *LabVIEW for LEGO MINDSTORMS* is a teaching tool that helps students visually control and program MINDSTORMS NXT robots. The desktop software turns any LEGO MINDSTORMS Education set into a full-feature science and engineering learning station, preparing students for university courses and engineering careers where *LabVIEW* is already used. Includes:

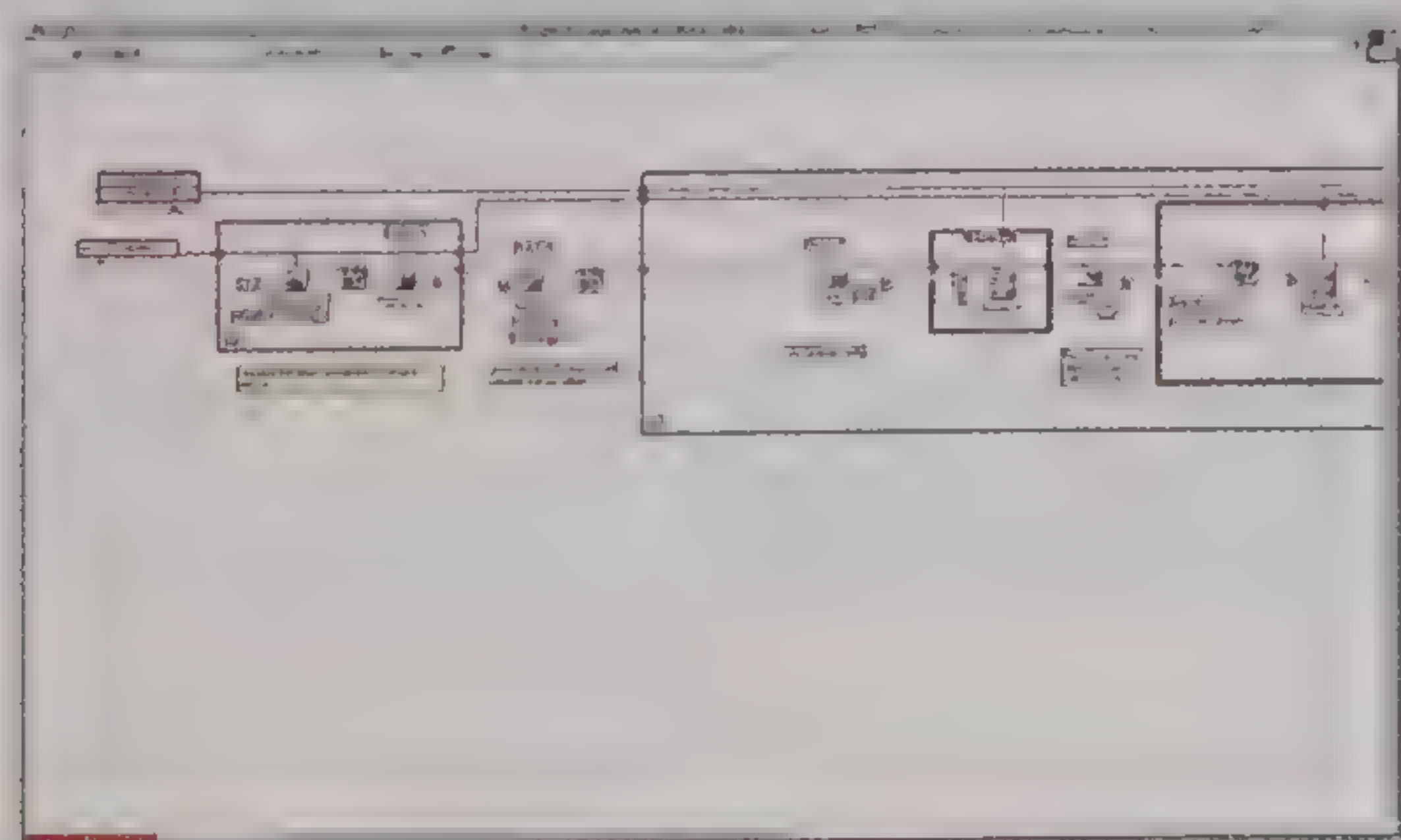
- Getting Started videos and tutorials to enable students to learn *LabVIEW*
- *LabVIEW* programming challenges integrated in the software environment
- A library of example program templates
- Beginner and advanced user-interface modes selected based on a student's skill level
- The K12Lab.com online community where teachers can browse and share lesson plans

TM991861—\$99.95

NI LabVIEW™ For LEGO® MINDSTORMS® Software and Site License

The site license allows for the installation of the *LabVIEW™* for LEGO® MINDSTORMS® on all computers at a single school or institution.

TM991862—\$549.95



LEGO® MINDSTORMS® Education with LabVIEW™ Value Packs

NEW

This pack has everything you need to get students excited about science, technology, engineering, and math concepts using *LabVIEW™* for LEGO® MINDSTORMS® with LEGO® MINDSTORMS® Education NXT Sets.

LEGO® MINDSTORMS® Education with LabVIEW™ 4-Pack

- 4 LEGO® MINDSTORMS® Education NXT Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® (4 single licenses included in pack)

TM991598—\$1,457.95 **Save \$61**

LEGO® MINDSTORMS® Education with LabVIEW™ 6-Pack

- 6 LEGO® MINDSTORMS® Education NXT Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License

TM991599—\$2,162.95 **Save \$66**

LEGO® MINDSTORMS® Education with LabVIEW™ 8-Pack

- 8 LEGO® MINDSTORMS® Education NXT Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License

TM991617—\$2,705.95 **Save \$83**

LEGO® MINDSTORMS® Education with LabVIEW™ 10-Pack

- 10 LEGO® MINDSTORMS® Education NXT Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License

TM991618—\$3,249.95 **Save \$99**

LEGO® MINDSTORMS® Education with LabVIEW™ 12-Pack

- 12 LEGO® MINDSTORMS® Education NXT Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License

TM991619—\$3,759.95 **Save \$149**

Engineering with NI LabVIEW™: High School Robotics Activities



Recently upgraded and optimized for use with the LabVIEW™ for LEGO® MINDSTORMS® Software, this activity set features a series of 10 progressive building and programming units that introduce students to *LabVIEW Education Edition* with LEGO MINDSTORMS NXT and TETRIX® by Pitsco. With these activities, students put the engineering design process into practice in an assistive robotics theme, providing real-world scenarios and open-ended challenges perfect for any high school engineering, technology, or robotics class. Includes:

- Printed teacher's guide
- Separate teacher and student CD-ROMs
- Printable worksheets and quizzes
- Instructional videos
- Parts library, glossary, and more

Key Learning Targets:

- Designing, constructing, and programming robots to perform specific tasks
- Utilizing the engineering design process
- Investigating problems then reflecting upon and communicating solutions
- Designing and working within constraints

TM737576—\$299



LabVIEW™ Lessons: Classroom Activities For Learning and Using LabVIEW with LEGO® MINDSTORMS®

LabVIEW™ Lessons features a number of activities designed to develop students' computational thinking and engineering design skills through the presentation of open-ended problems. The book also includes classroom management tips, introductory activities for the NXT, tutorials for teaching *LabVIEW* programming, advanced *LabVIEW* programming lessons, and much more.

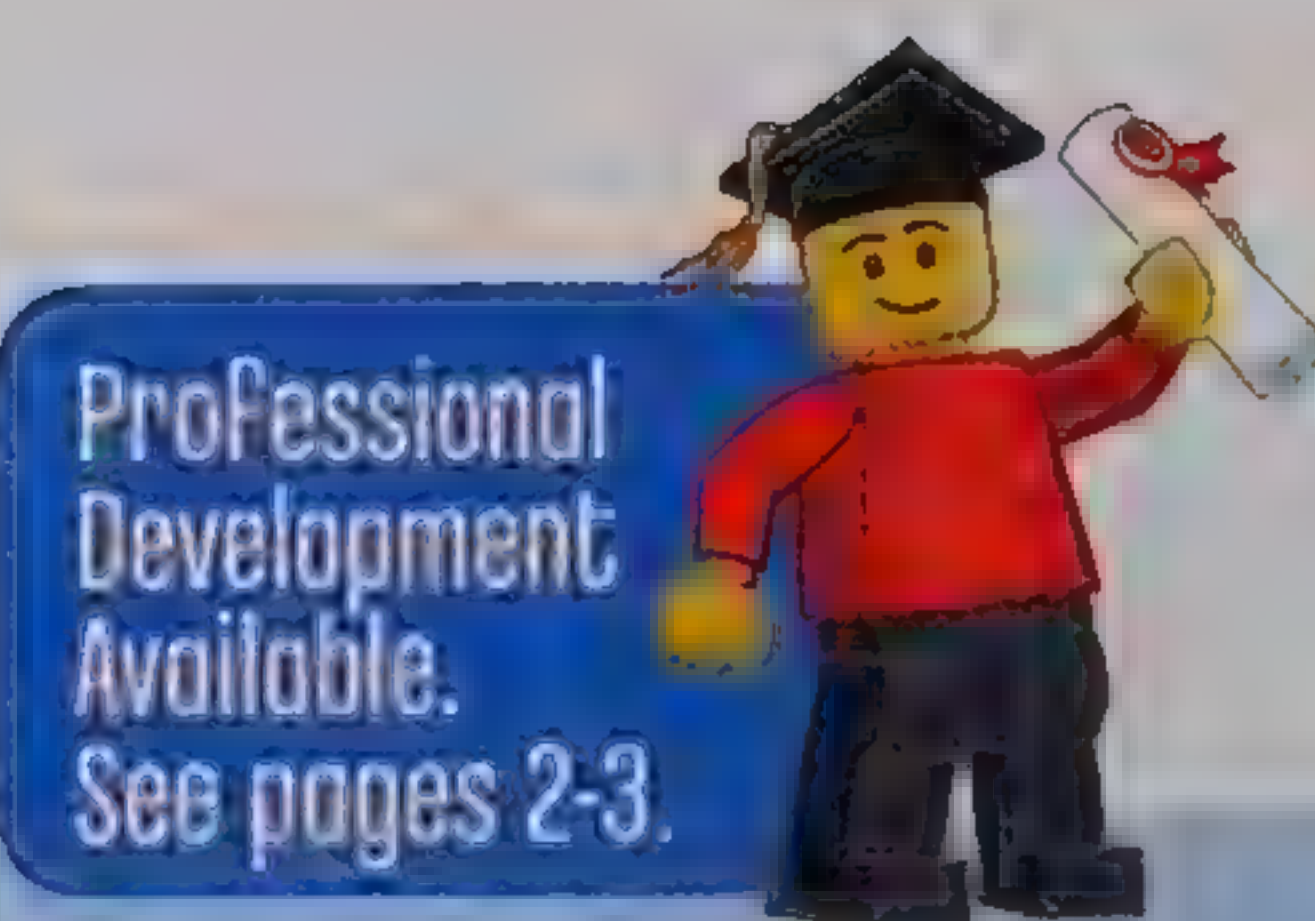
TM771334—\$36

LabVIEW Lessons

Classroom Activities for Learning and Using LabVIEW with LEGO Mindstorms



By Barbara Bratzel
Foreword by Chris Rogers



LabVIEW™ For LEGO MINDSTORMS with MINDSTORMS® and TETRIX® Value Packs

Bring science, technology, engineering, and math to life through hands-on learning with *LabVIEW™ for LEGO® MINDSTORMS®, LEGO® MINDSTORMS® Education NXT, TETRIX®* by Pitsco, and the *Engineering with LabVIEW: High School Robotics Activities* pack.

LabVIEW™, MINDSTORMS®, and TETRIX® 4-Pack

- 4 LEGO® MINDSTORMS® Education NXT Base Sets
- 4 TETRIX® Education Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® (4 single licenses included in pack)
- Engineering with LabVIEW™: High School Robotics Activities

TM991592—\$4,091.95 **Save \$126**

LabVIEW™, MINDSTORMS®, and TETRIX® 6-Pack

- 6 LEGO® MINDSTORMS® Education NXT Base Sets
- 6 TETRIX® Education Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License
- Engineering with LabVIEW™: High School Robotics Activities

TM991593—\$5,944.95 **Save \$183**

LabVIEW™, MINDSTORMS®, and TETRIX® 8-Pack

- 8 LEGO® MINDSTORMS® Education NXT Base Sets
- 8 TETRIX® Education Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License
- Engineering with LabVIEW™: High School Robotics Activities

TM991594—\$7,651.95 **Save \$236**

LabVIEW™, MINDSTORMS®, and TETRIX® 10-Pack

- 10 LEGO® MINDSTORMS® Education NXT Base Sets
- 10 TETRIX® Education Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License
- Engineering with LabVIEW™: High School Robotics Activities

TM991595—\$9,358.95 **Save \$289**

LabVIEW™, MINDSTORMS®, and TETRIX® 12-Pack

- 12 LEGO® MINDSTORMS® Education NXT Base Sets
- 12 TETRIX® Education Base Sets
- NI LabVIEW™ for LEGO® MINDSTORMS® Software and Site License
- Engineering with LabVIEW™: High School Robotics Activities

TM991596—\$10,951.95 **Save \$455**



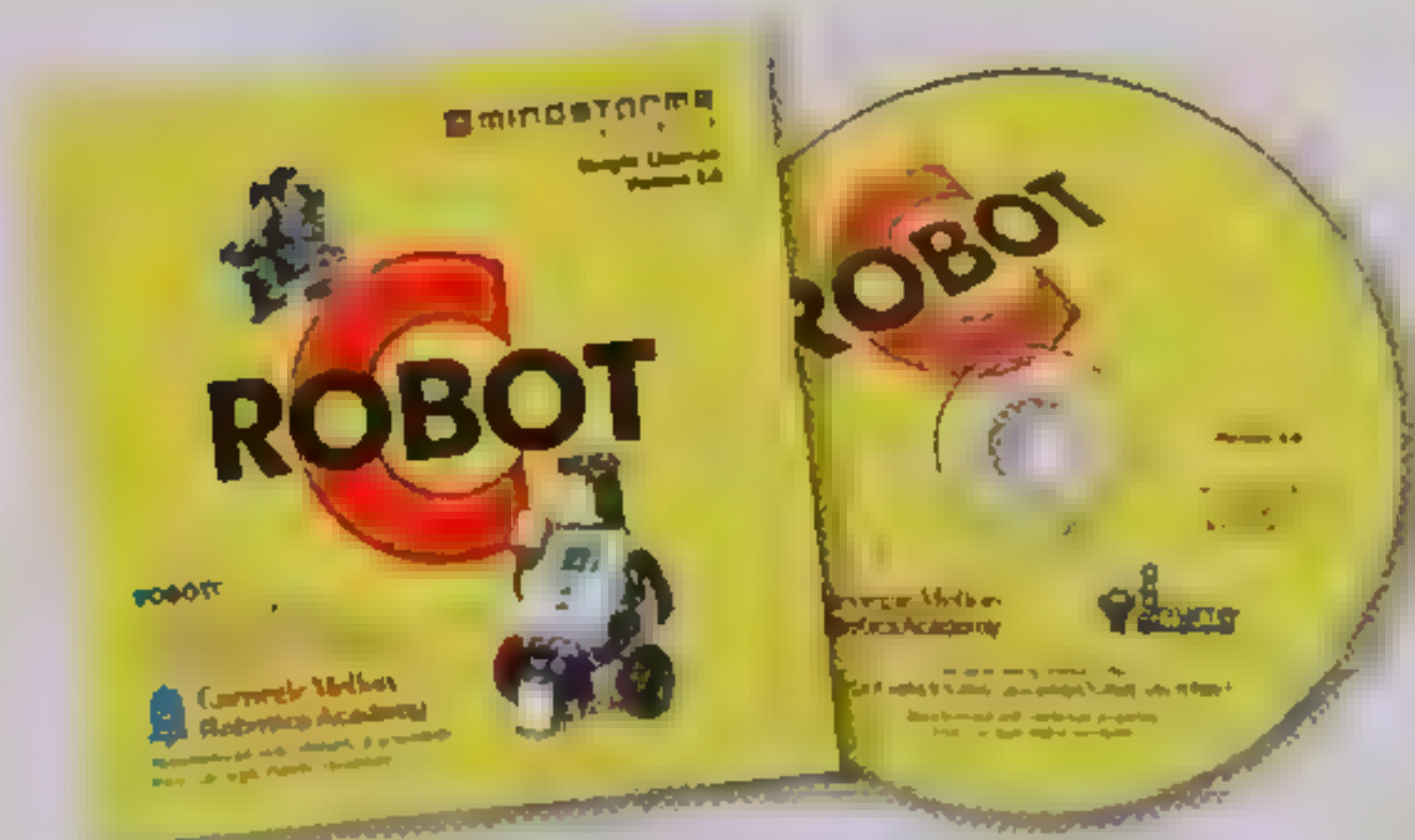
ROBOTC® 3.0 Software

ROBOTC® 3.0

is optimized for classroom use and includes a user-friendly interface with basic and advanced programming options. *ROBOTC* is designed to enhance a new programmer's learning experience while still meeting the needs of an advanced programmer. *ROBOTC* is based on the industry-standard C language; *ROBOTC* is a single programming solution for both LEGO® MINDSTORMS® NXT and LEGO MINDSTORMS Education with *TETRIX®* by Pitsco.

TM991935—\$79.95

TM991936 *ROBOTC® 3.0 Software*
and Classroom License—\$499.95

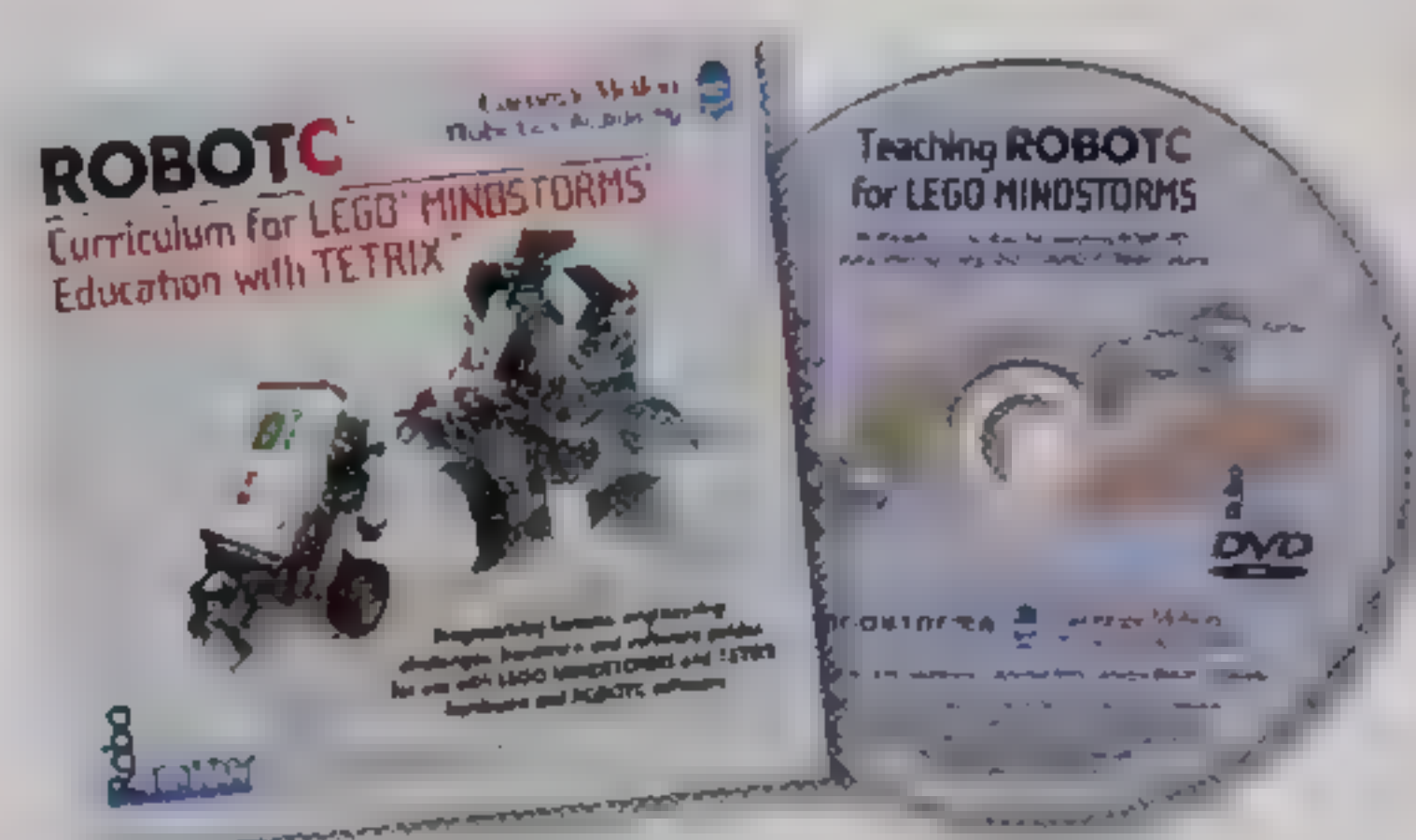


ROBOTC®: Curriculum For LEGO® MINDSTORMS® Education with TETRIX®

The Robotics Academy introduces a feature-rich product designed to support teachers and students who use the *TETRIX®* building system with the MINDSTORMS® NXT Intelligent Brick and *ROBOTC®* C-based programming language.

Lessons are included for LEGO® MINDSTORMS with and without the *TETRIX* building system. This enables teachers who use both in their classrooms to offer a variety of projects. The curriculum includes a combination of programming lessons for *ROBOTC*, engineering challenges, helper pages, and more than 300 pages of instructional materials in a PDF file to support students.

TM991542—\$349.95



TETRIX® by Pitsco



Professional
Development
Available.
See pages 2-3.



ROBOTC® with MINDSTORMS® and TETRIX® Value Packs

Get your students excited about computer programming, electronic-embedded systems, engineering design, mathematics, and much more with MINDSTORMS®, *TETRIX®* by Pitsco, and *ROBOTC®*.

ROBOTC®, MINDSTORMS®, and TETRIX® 4-Pack

- 4 MINDSTORMS® Education Base Sets with TETRIX®
- ROBOTC® Software (4 single licenses included in pack)
- ROBOTC®: Curriculum for LEGO® MINDSTORMS® Education with TETRIX®

TM991649—\$4,150.95 **Save \$84**

ROBOTC®, MINDSTORMS®, and TETRIX® 6-Pack

- 6 MINDSTORMS® Education Base Sets with TETRIX®
- ROBOTC® Software and 24-Seat License
- ROBOTC®: Curriculum for LEGO® MINDSTORMS® Education with TETRIX®

TM991667—\$6,029.95 **Save \$154**

ROBOTC®, MINDSTORMS®, and TETRIX® 8-Pack

- 8 MINDSTORMS® Education Base Sets with TETRIX®
- ROBOTC® Software and 24-Seat License
- ROBOTC®: Curriculum for LEGO® MINDSTORMS® Education with TETRIX®

TM991650—\$7,697.95 **Save \$237**

ROBOTC®, MINDSTORMS®, and TETRIX® 10-Pack

- 10 MINDSTORMS® Education Base Sets with TETRIX®
- ROBOTC® Software and 24-Seat License
- ROBOTC®: Curriculum for LEGO® MINDSTORMS® Education with TETRIX®

TM991663—\$9,355.95 **Save \$338**

ROBOTC®, MINDSTORMS®, and TETRIX® 12-Pack

- 12 MINDSTORMS® Education Base Sets with TETRIX®
- ROBOTC® Software and 24-Seat License
- ROBOTC®: Curriculum for LEGO® MINDSTORMS® Education with TETRIX®

TM991651—\$10,996.95 **Save \$457**



HiTechnic Touch Sensor Multiplexer

The *HiTechnic Touch Sensor Multiplexer* enables you to connect up to four *NXT Touch Sensors* to a single *NXT Intelligent Brick* sensor port.

Ages 8+

TM991446—\$28.99

HiTechnic Sensor Multiplexer

The *HiTechnic Sensor Multiplexer* allows up to four sensors to be connected to one *NXT Intelligent Brick* sensor port. Connect more than one *HiTechnic Sensor Multiplexer* for more connectivity.

Ages 8+

TM991560—\$57.95

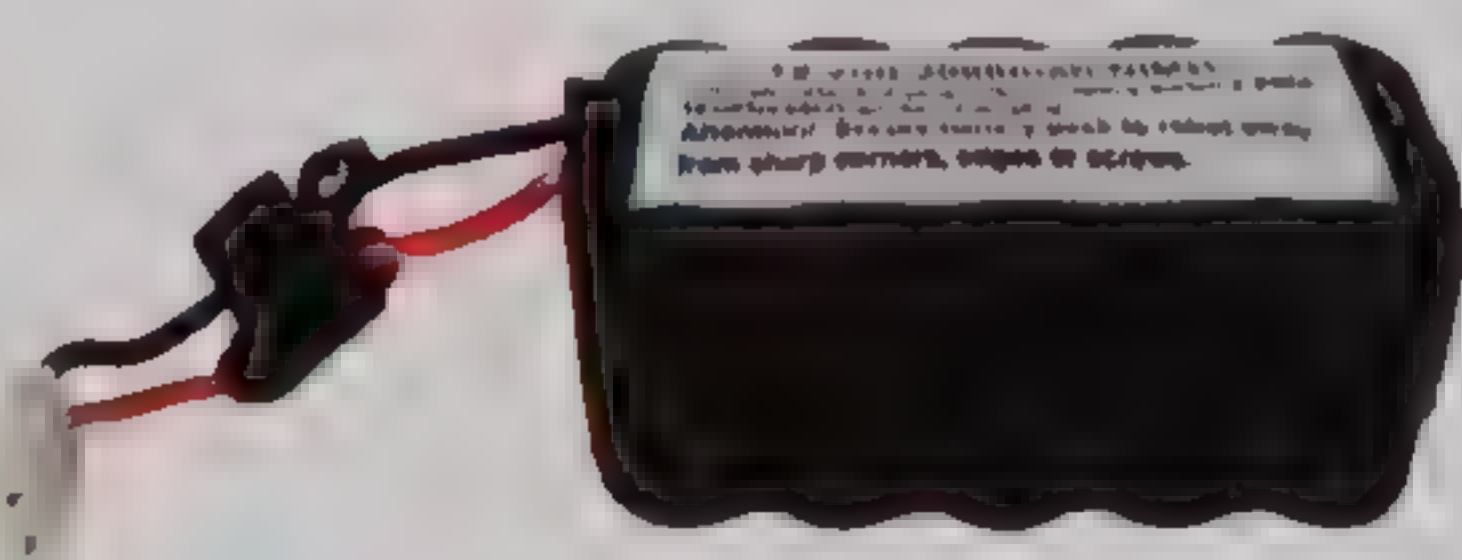


NiMH Battery Pack Charger

Use this charger to charge our *12V Battery Pack* (739057).

Ages 14+

TM739059—\$34.95



12V Rechargeable NiMH Battery Pack

Use this 10-cell, 12-volt, 3,000 mAh, NiMH pack with built-in 20-amp replaceable fuse for safety to power the *HiTechnic DC Motor* and *Servo Controllers*.

Ages 14+

TM739057—\$49.95



TETRIX® Motor Encoder Pack

This pack includes one *Motor Shaft Encoder*, one *Shaft Encoder Cable*, an improved encoder mount, and assembly instructions. Compatible with *LEGO® MINDSTORMS® Education Software*, *LabVIEW™*, and *ROBOTC®*.

Ages 14+

TM738000—\$79.95



Shaft Encoder Cables

For connecting the *Motor Shaft Encoder* to the *HiTechnic DC Motor Controller*.

Ages 14+

TM739135 (pkg of 2)—\$34.95

HiTechnic DC Motor Controller For TETRIX®

The *HiTechnic DC Motor Controller* for *TETRIX®* connects to an *NXT Intelligent Brick* sensor port and will enable you to control powerful DC gear motors for use with *TETRIX* robots. The controller has two H-bridge outputs to control the speed and direction of two DC gear motors and is designed to connect to the *TETRIX* hole pattern.

Ages 14+

TM991444—\$79.95



HiTechnic Servo Controller For TETRIX®

The *HiTechnic Servo Motor Controller* for *TETRIX®* connects to an *NXT Intelligent Brick* sensor port and will enable you to control up to six R/C-type servo motors for use with *TETRIX* robots, enabling you to add proportional positioning to your robotic creations.

Ages 14+

TM991445—\$79.95

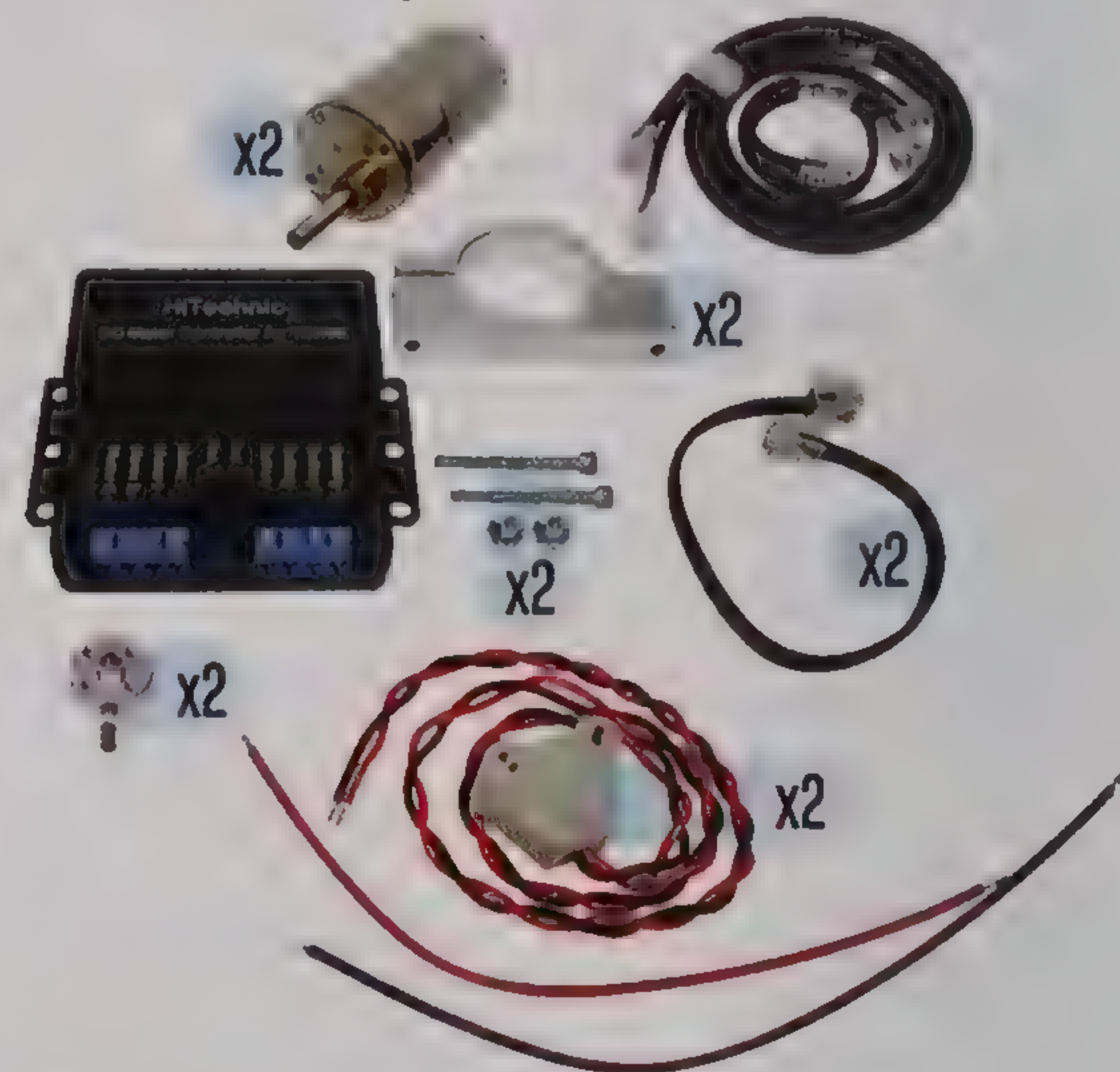


TETRIX® DC Motor Pack

The *TETRIX® DC Motor Pack* has everything you need to incorporate two more DC motors into your robot.

Ages 14+

TM731137—\$149.95



TETRIX® Servo Motor Pack

The *TETRIX® Servo Motor Pack* has everything you need to add two 180-degree servos to your robot. And with three different mounting systems, you can choose to attach them however you like.

Ages 14+

TM731138—\$149.95



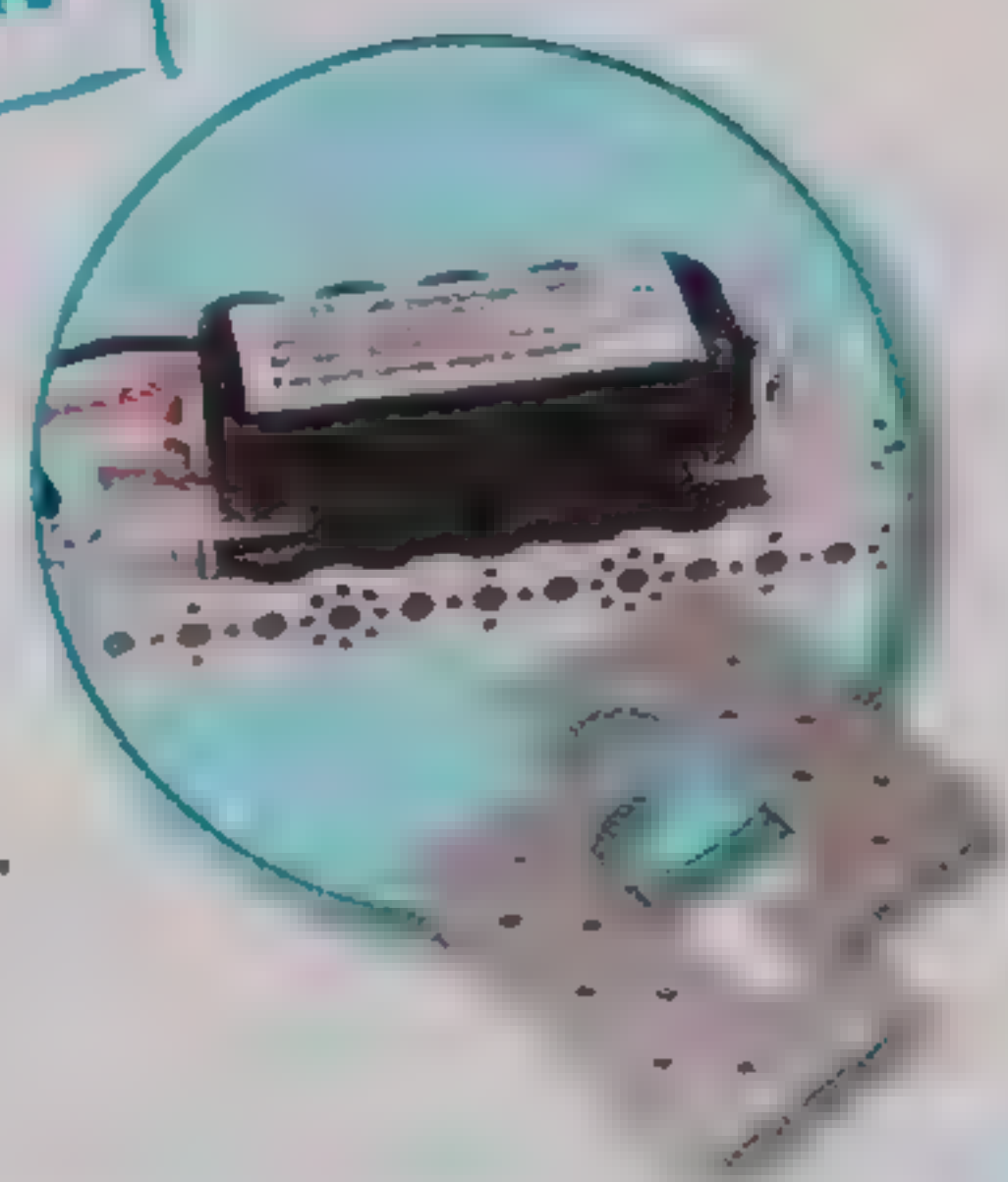
TETRIX® Battery Clips 2-Pack

NEW

These heavy-duty aluminum clips provide a safe and sturdy housing unit for the *TETRIX*® battery pack.

Ages 14+

TM738009—\$5.95



TETRIX® Wrench Set

Get into those hard-to-reach places with the *TETRIX*® Wrench Set. This set of stamped wrenches enables users to hold keps and stand-off building components in place while assembling their robot.

Ages 14+

TM738001—\$5.95

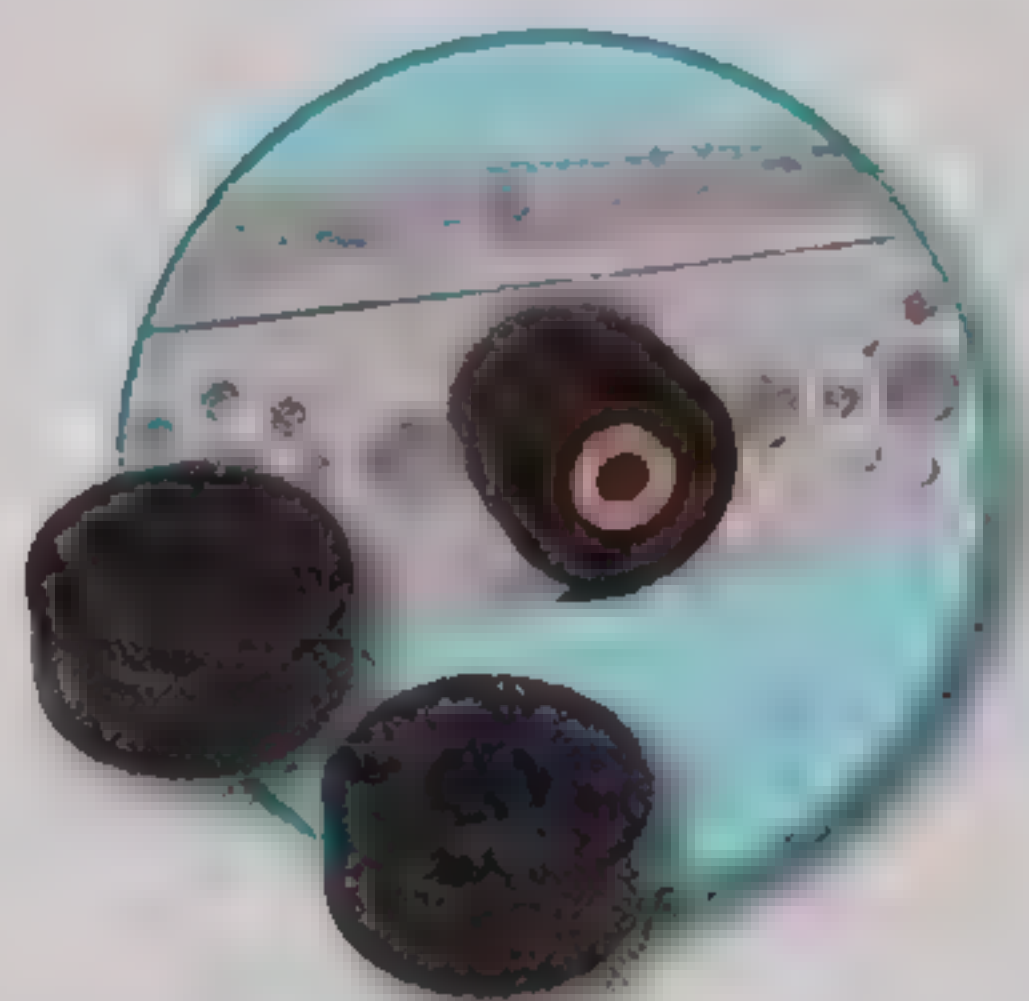


TETRIX® Delrin Bearings 2-Pack

These bearings provide extra support when building mechanisms interact with heavy-duty loads.

Ages 14+

TM738008—\$7.95



TETRIX® Bevel Gear & Delrin® Bearings 2-Pack

The *TETRIX*® bevel gear and bearings pack includes two heavy-duty aluminum gears along with two Delrin® bearings that allow for the transfer of the direction of motion at 90 degrees.

Ages 14+

TM738007—\$29.95



TETRIX® Stand-Off Posts

Hex stand-off posts; female/female, 6-32.

Ages 14+

TM739102 1" (pkg of 12)—\$3.95

TM739103 2" (pkg of 12)—\$7.95



TETRIX® Tank Tread Kit

Give your robots traction with this kit that provides everything needed to create robots with up to 6.5 feet of tank tread. *TETRIX*® chain links are made of highly durable Delrin® and snap together and apart with ease. Also includes the extra *TETRIX* parts required to attach the treads to a robot, requiring no additional parts from the *TETRIX* Base Set.

Ages 14+

TM736468—\$99.95

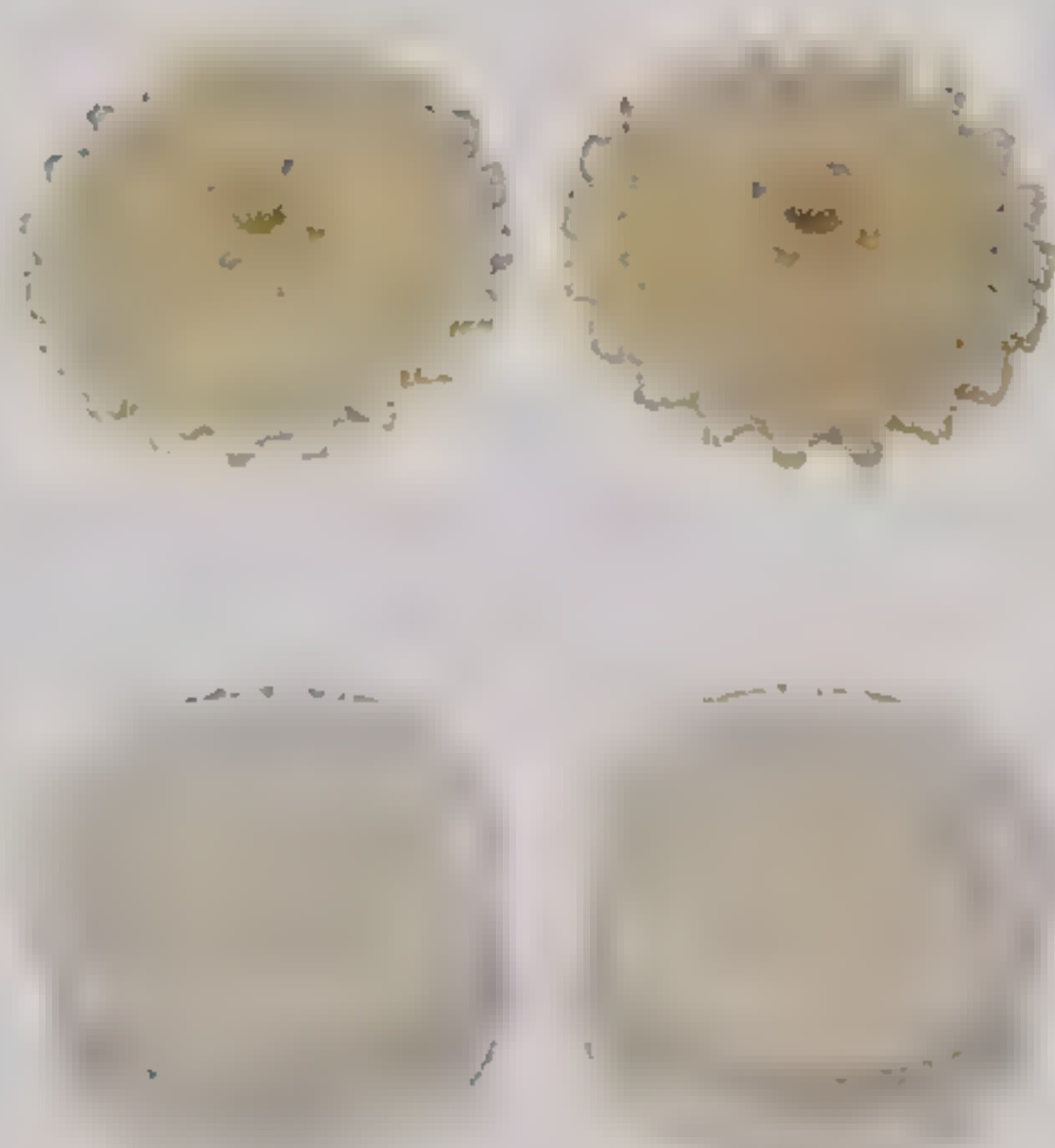


TETRIX® Tank Tread Sprocket Pack

These sprockets are the drive system for tank treads. They can be attached to *TETRIX*® DC motors, motor hubs, and servos. Each sprocket has 20 teeth.

Ages 14+

TM736461 (pkg of 2)—\$9.95



TETRIX® Tank Tread Idler Wheel Pack

Providing rolling support for tank treads, these idler wheels can be used with standard *TETRIX*® parts.

Ages 14+

TM736462 (pkg of 2)—\$10.95



TETRIX® Tank Tread Accessory Pack

Includes 24 *Tread Conveyor Paddles* and 50 *Tread Rubber Inserts*.

Ages 14+

TM739250—\$32.95

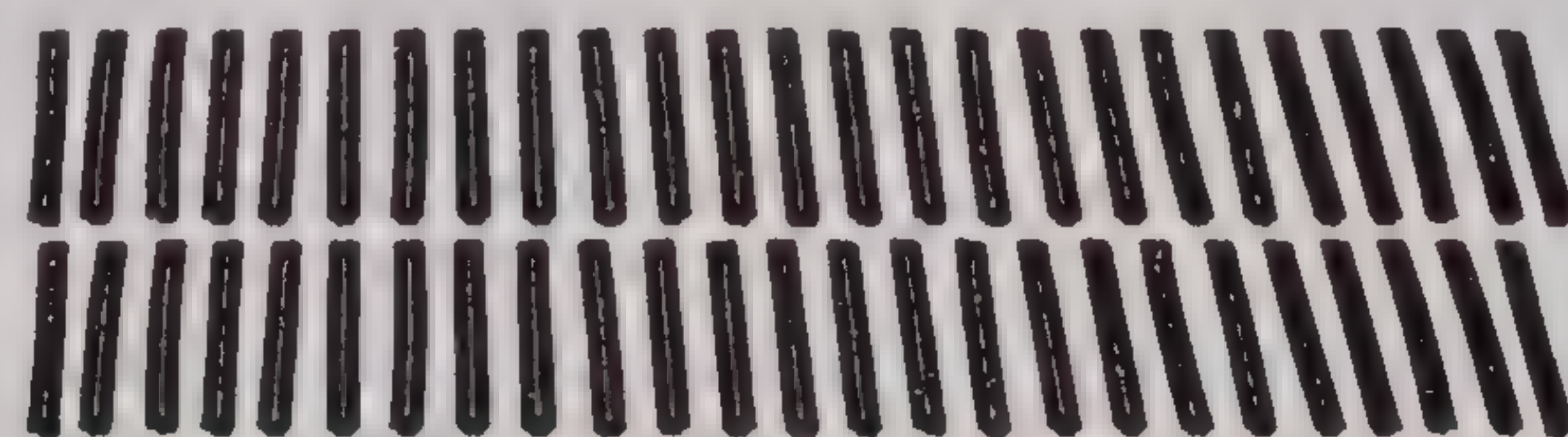


TETRIX® Tank Tread Chain Link Pack

When you need longer tank treads, this pack will provide the extra length with the same snap-together *TETRIX*® chain links as in the *Tank Tread Kit*. Package of 100 chain links creates up to 3.25 feet of tread.

Ages 14+

TM736460 (pkg of 100)—\$28.95



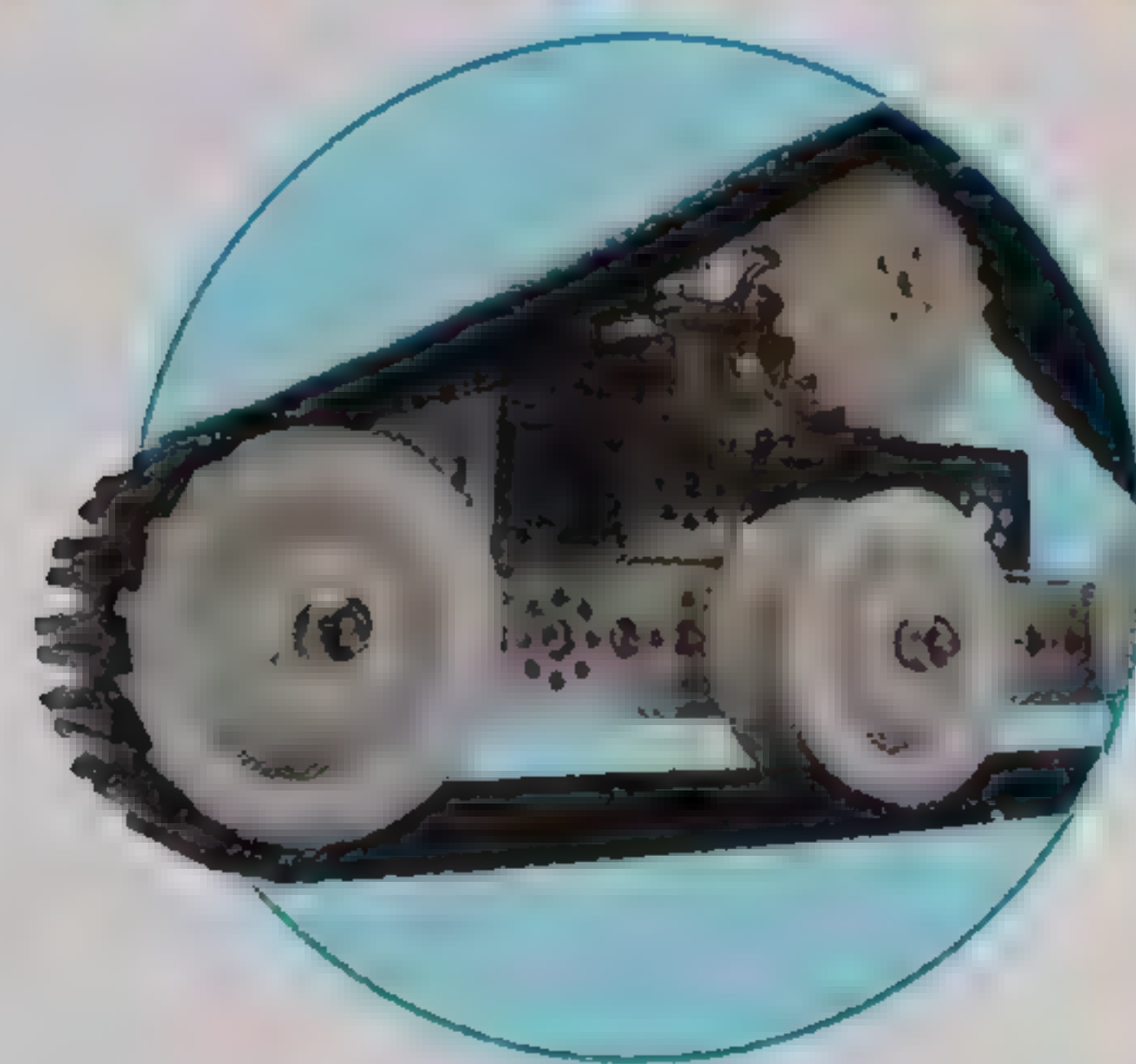
TETRIX® Conveyor Rubber Inserts Pack

Get extra grip with these rubber inserts — their T-shaped ends slide into the *TETRIX*® *Tank Tread Chain Links* for a secure fit.

Ages 14+

TM736464 (pkg of 50)—\$17.95

TETRIX® by Pitsco

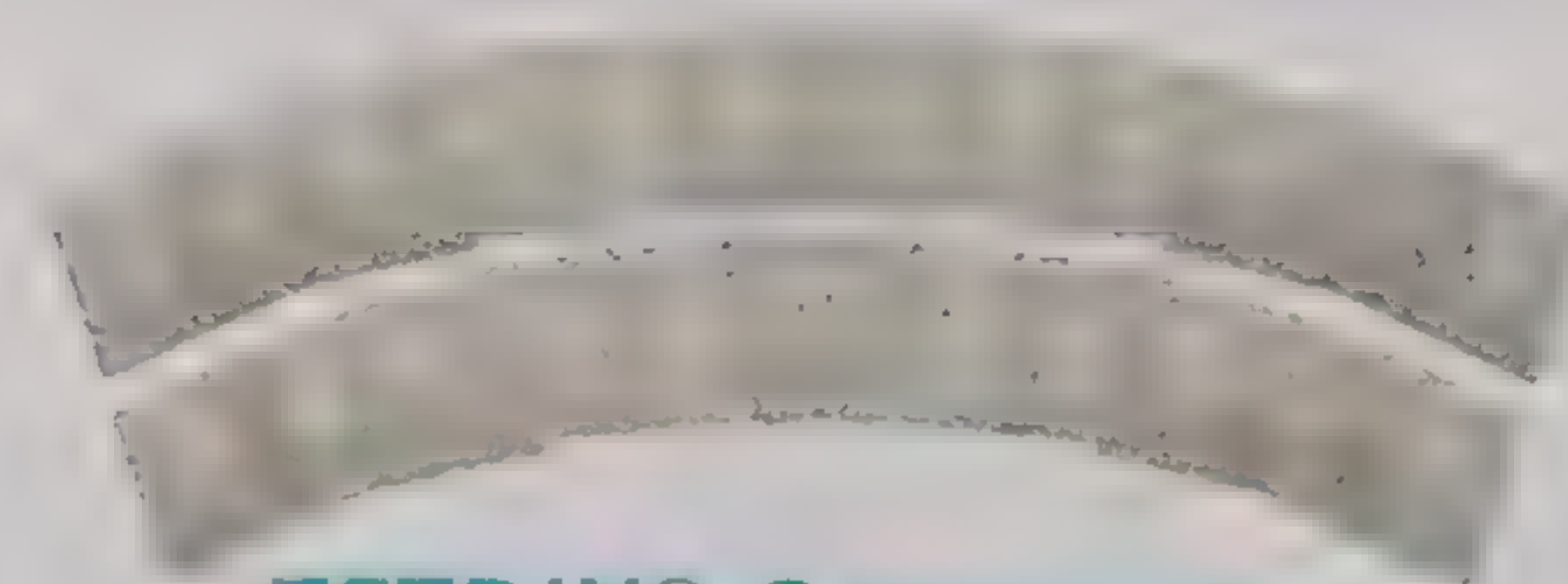


TETRIX® Conveyor Paddles Pack

Nylon paddles feature T-shaped ends that slide into the *TETRIX*® *Tank Tread Chain Links* to create conveyor-type mechanisms. Each paddle is 50 mm x 40 mm.

Ages 14+

TM736463—\$17.95





TETRIX® Channels

Heavy-duty aluminum channel pieces are the structural base for building with the TETRIX® building system. Comes in five different lengths for flexible building – also, pieces can be cut to custom lengths with a metal-cutting blade.

Ages 14+

TM739065 (32 mm) (pkg of 2)–\$9.95

TM739066 (96 mm) (pkg of 2)–\$11.95

TM739067 (160 mm) (pkg of 2)–\$16.95

TM739068 (288 mm) (pkg of 2)–\$27.95

TM739069 (416 mm)–\$17.95



TETRIX® Tubes

Light and strong, the TETRIX® Tubes can be used as long extensions. Made of heavy-duty aluminum, they come in three different sizes but can also be cut to custom lengths with a metal-cutting blade.

Ages 14+

TM739074 (80 mm) (pkg of 2)–\$2.95

TM739075 (145 mm) (pkg of 2)–\$5.95

TM739076 (220 mm) (pkg of 2)–\$8.95

TETRIX® Tube Plug Pack

Insert these precision-machined aluminum TETRIX® Tube Reinforcers into the end of TETRIX Tubes for reinforcement when applying a TETRIX Tube Clamp.

Ages 14+

TM739193 (pkg of 2)–\$1.95



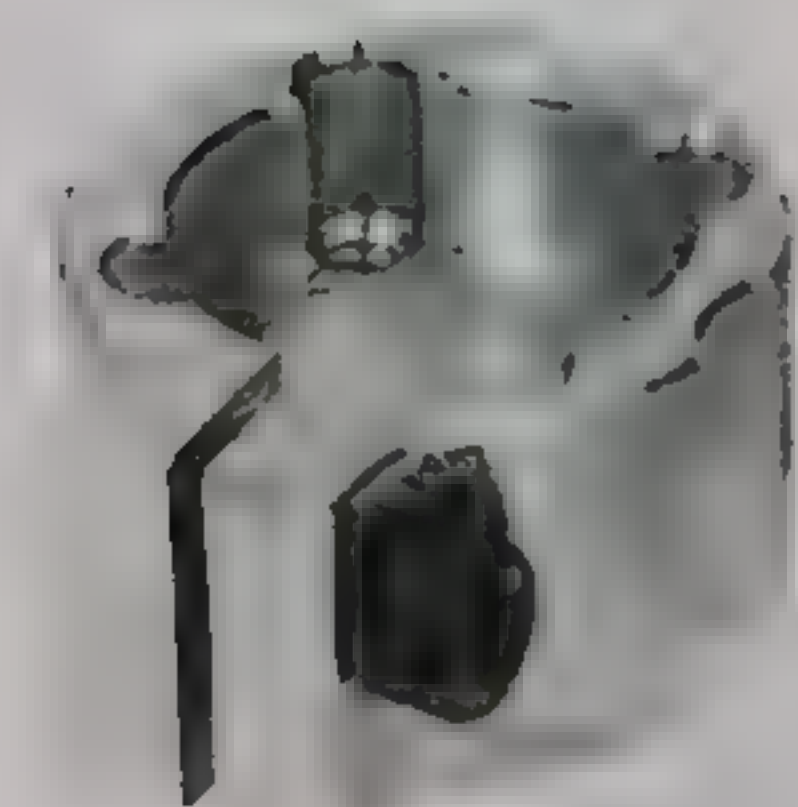
For more TETRIX® information
visit TETRIXrobotics.com.

TETRIX® Tube Clamps

Used to bolt TETRIX® Tubes to structural elements, these Tube Clamps feature heavy-duty aluminum construction.

Ages 14+

TM739077 (pkg of 2)–\$6.95



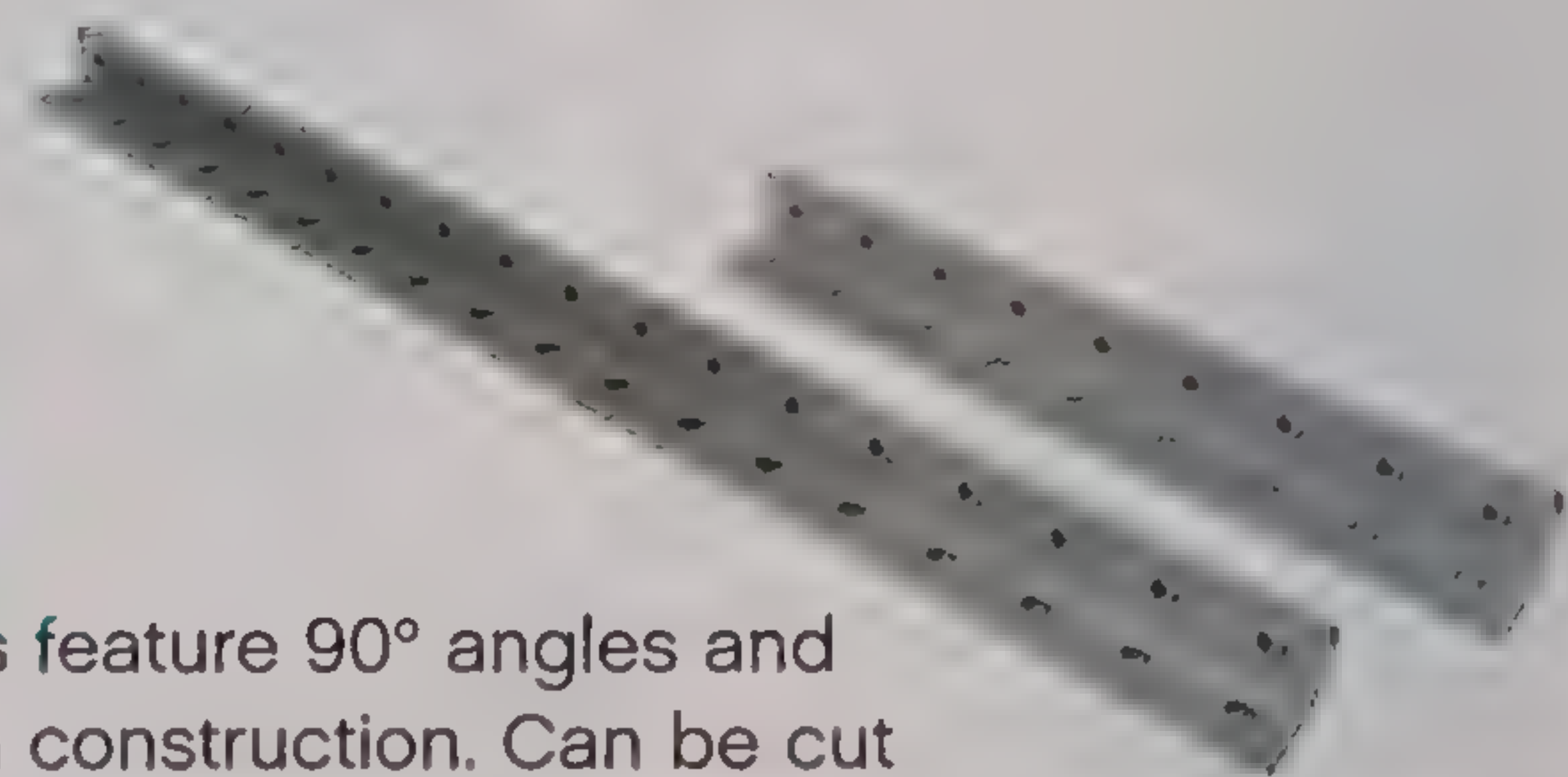
TETRIX® Angles

Structural pieces feature 90° angles and heavy-duty aluminum construction. Can be cut to custom lengths with a metal-cutting blade.

Ages 14+

TM739072 (144 mm) (pkg of 2)–\$10.95

TM739071 (288 mm) (pkg of 2)–\$13.95

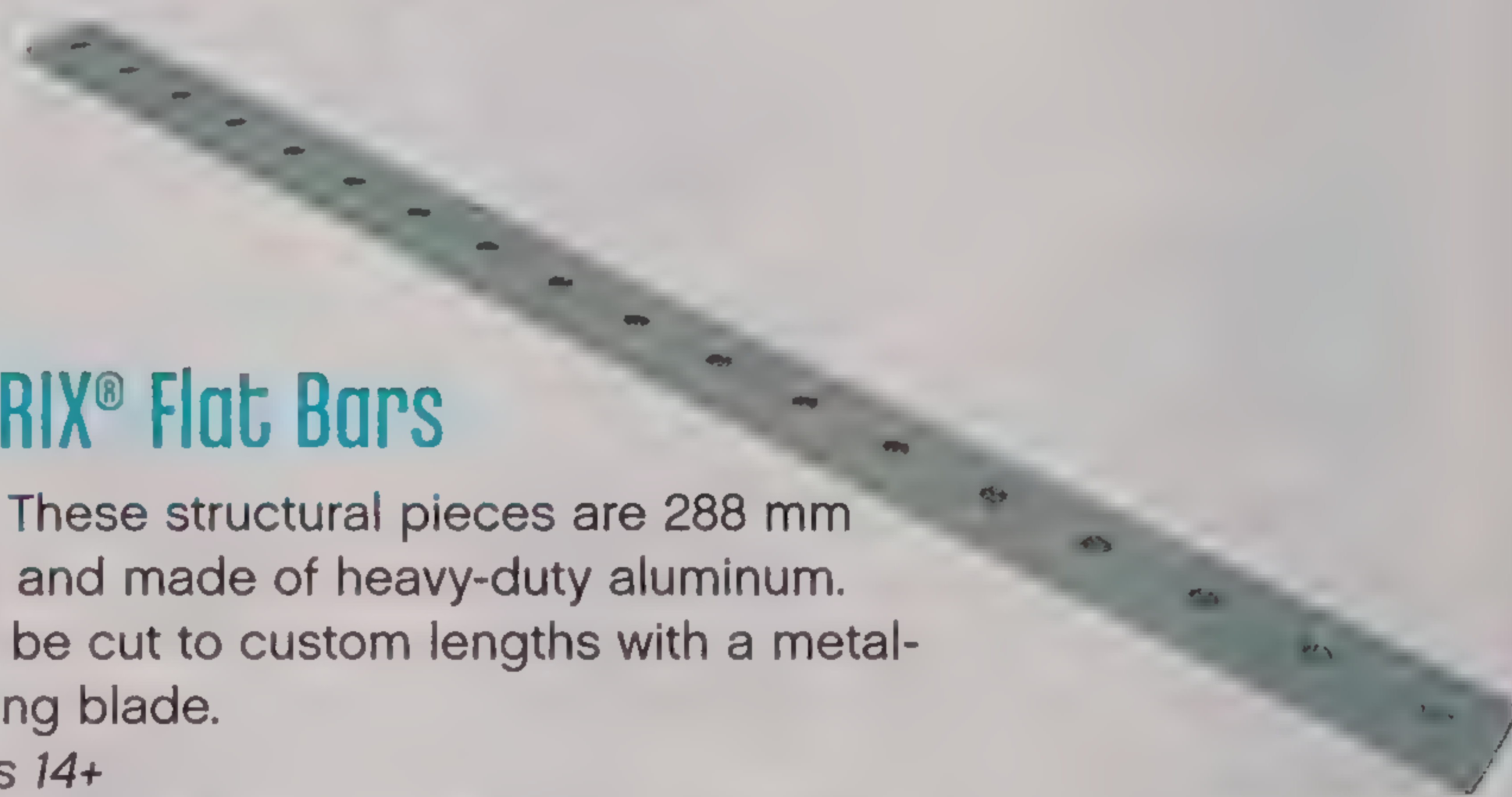


TETRIX® Flat Bars

These structural pieces are 288 mm long and made of heavy-duty aluminum. Can be cut to custom lengths with a metal-cutting blade.

Ages 14+

TM739070 (pkg of 2)–\$9.95

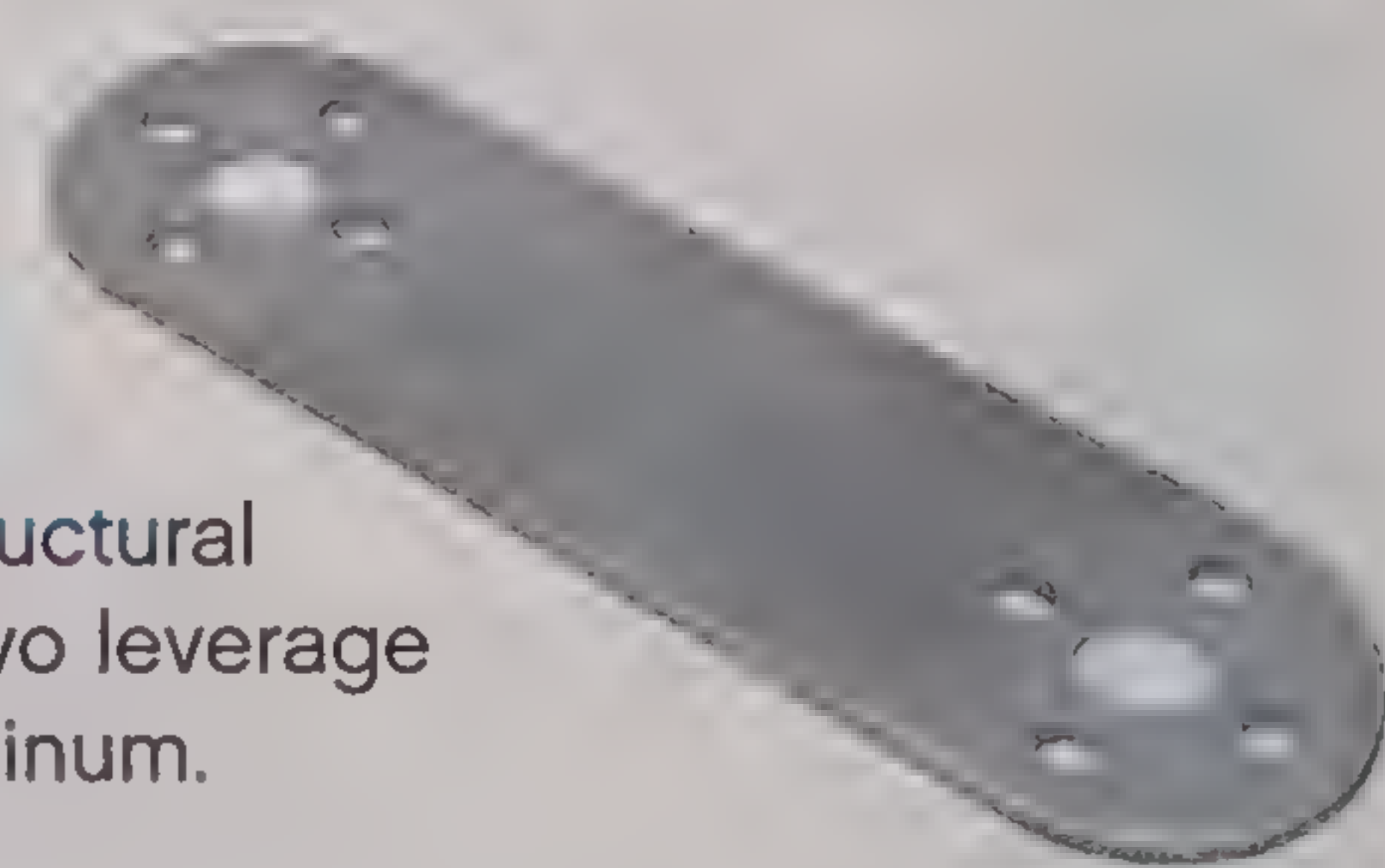


TETRIX® Flat Brackets

Perfect for connecting structural elements or for creating a servo leverage arm. Made of heavy-duty aluminum.

Ages 14+

TM739061 (pkg of 2)–\$5.95

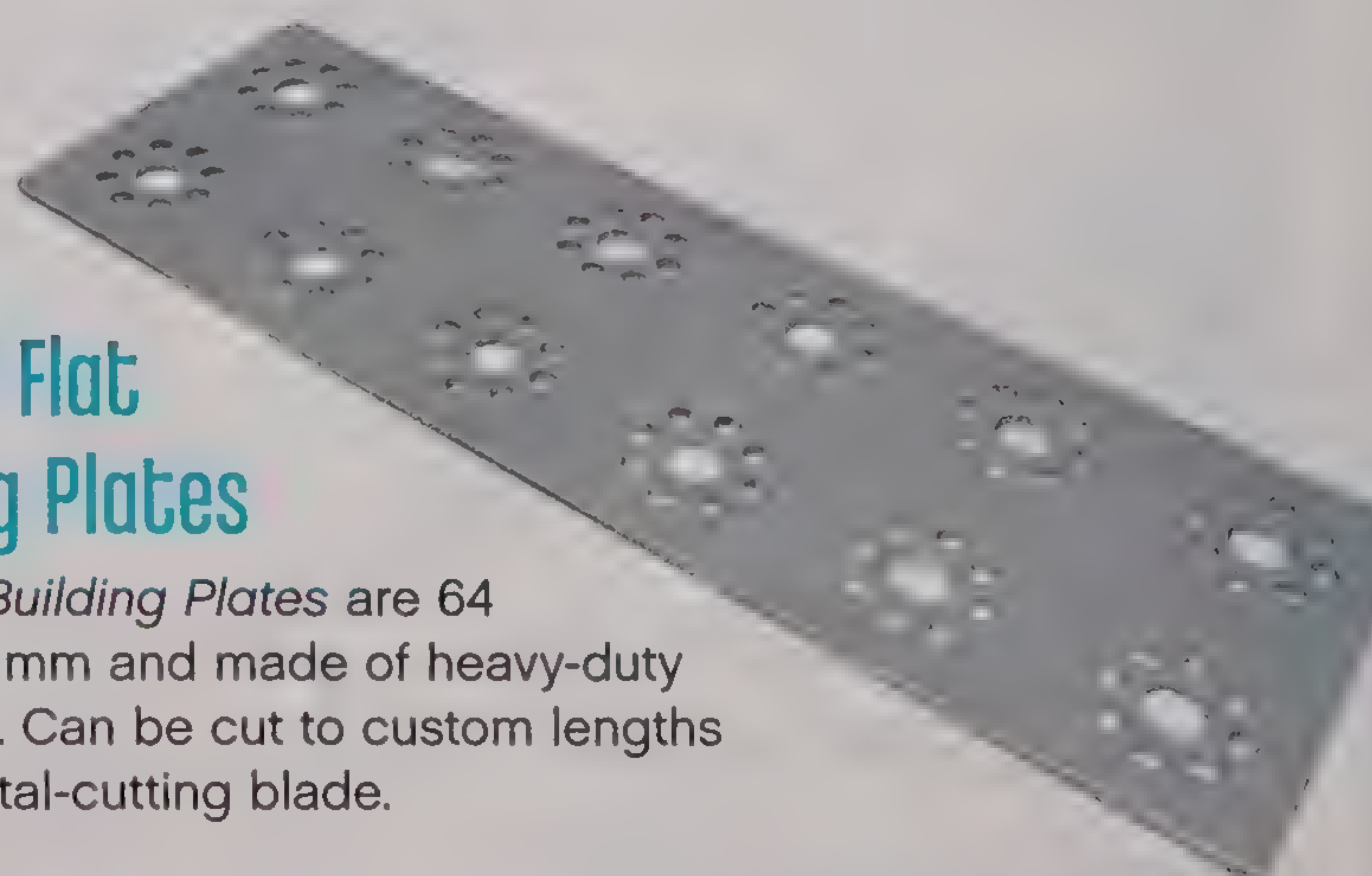


TETRIX® Flat Building Plates

Flat Building Plates are 64 mm x 192 mm and made of heavy-duty aluminum. Can be cut to custom lengths with a metal-cutting blade.

Ages 14+

TM739073 (pkg of 2)–\$12.95



TETRIX® L Brackets

Brackets with 90° angles connect structural elements. Made of heavy-duty aluminum.

Ages 14+

TM739062 (pkg of 2)—\$4.95

TETRIX® Axles

Attach wheels and gears with these precision-ground axles.

Ages 14+

TM739088 (100 mm) (pkg of 6)—\$15.95

TM735871 (250 mm) (pkg of 3)—\$15.95

TETRIX® Gear Hub Spacers

Provides adequate spacing between wheels and gears. Includes four cap screws for each spacer.

Ages 14+

TM739090 (pkg of 2)—\$6.95

TETRIX® Axle Hubs

Used to attach gears and wheels to axles and axles to structural elements. Features heavy-duty aluminum construction.

Ages 14+

TM739172 (pkg of 2)—\$6.95

TETRIX® Motor Shaft Hubs

Attach wheels and gears to motor shafts with these hubs. Each hub comes with a screw and is made of heavy-duty aluminum.

Ages 14+

TM739079 (pkg of 2)—\$5.95

TETRIX® Axle Set Collars

Axle Set Collars lock a rotating axle to secure the horizontal alignment.

Ages 14+

TM739092 (pkg of 6)—\$3.95

TETRIX® Bronze Bushings

Bronze axle bushings are greased to reduce friction.

Ages 14+

TM739091 (pkg of 12)—\$13.95

TETRIX® Axle Spacers

These spacers are handy when you need a little space between wheels, gears, and other elements on axles.

Ages 14+

TM739100 (1/8") (pkg of 12)—\$1.95

TM739101 (3/8") (pkg of 6)—\$.95

TETRIX® Servo Joint Pivot Brackets

Each bracket features a pivot bearing. Made of heavy-duty aluminum.

Ages 14+

TM739063 (pkg of 2)—\$10.95

TETRIX® Single-Servo Motor Brackets

Heavy-duty aluminum brackets each hold one servo in place.

Ages 14+

TM739060 (pkg of 2)—\$9.95

TETRIX® Dual-Servo Motor Bracket

When you need double the power, this bracket does the trick. Use it to attach two motors side by side. Made of heavy-duty aluminum.

Ages 14+

TM739064—\$7.95

On/OFF Switch

Controls the power from the battery pack.

Ages 14+

TM739129—\$6.95

Switch Mounting Bracket

The Switch Mounting Bracket is made of black acrylic and enables the On/Off Switch to be easily mounted onto TETRIX® components.

Ages 14+

TM739176—\$2.95

Socket Head Cap Screws

These 6-32 *Socket Head Cap Screws* connect your robot design. Requires hex keys, sold separately, to tighten and loosen the screws.

Ages 14+

TM739195 (1-1/2") (pkg of 20)–\$7.95

TM739194 (1-1/4") (pkg of 20)–\$8.95

TM739097 (1/2") (pkg of 100)–\$9.95

TM739098 (5/16") (pkg of 100)–\$9.95



Button Head Cap Screws

These 6-32 screws feature a low-profile head – great for areas where moving parts are close to the screw heads. Requires hex keys, sold separately, to tighten and loosen the screws.

Ages 14+

TM739111 (pkg of 50)–\$8.95

Kep Nuts



Kep Nuts feature a star washer that locks down on the heavy-duty aluminum structural elements for added strength to any *TETRIX*® robot design.

Ages 14+

TM739094 (pkg of 100)–\$2.95

Pivot Bearing

Replacement pivot bearing for the *Servo Joint Pivot Bracket*.

Ages 14+

TM739093–\$2.95

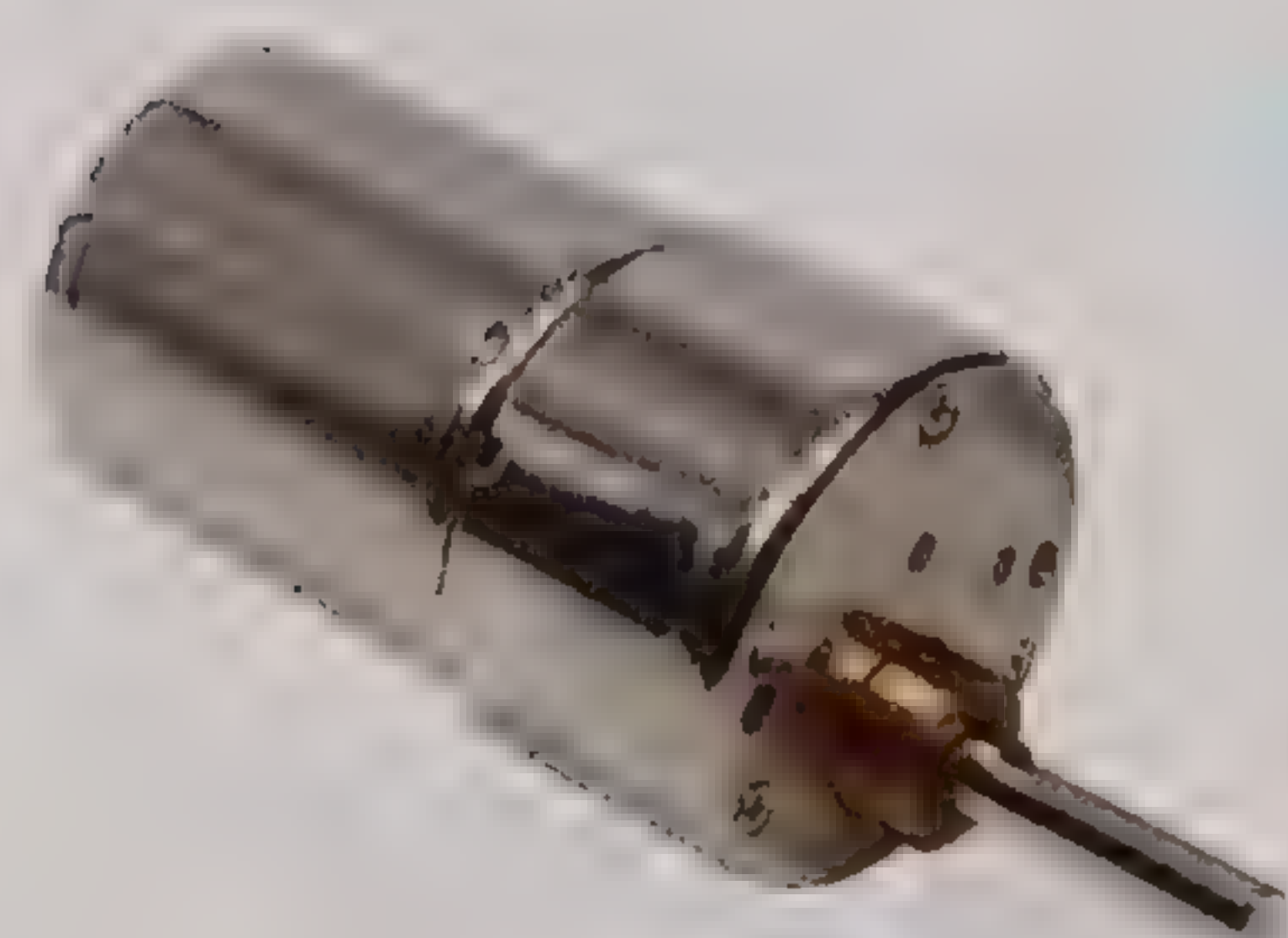


Motor Mount

Attaches the *DC Drive Motor* to your robot. Includes the *Motor Mount*, two *kep nuts*, and two cap screws.

Ages 14+

TM739089–\$15.95

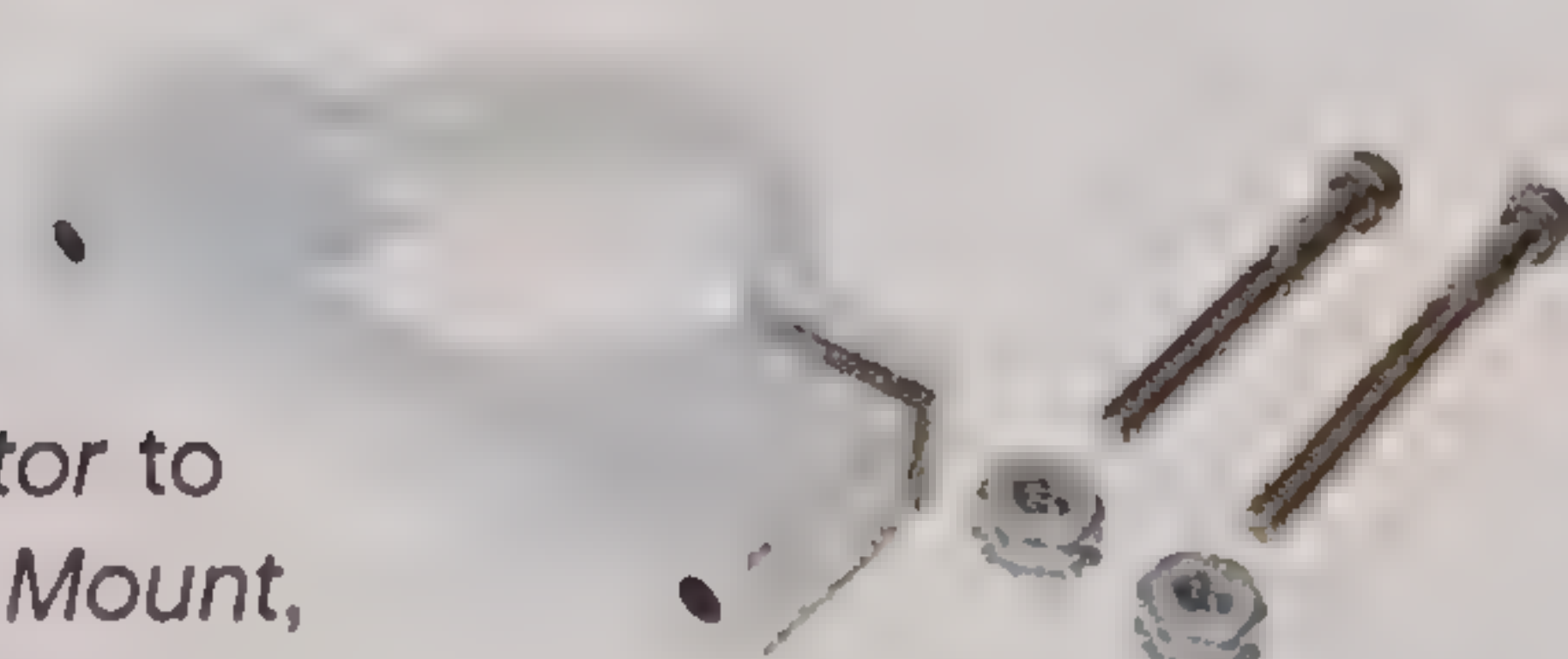


TETRIX® DC Drive Motor

12-volt DC motor features 152 rpm and 300 oz-in. of torque.

Ages 14+

TM739083–\$29.95



Servo Y Connector

For connecting two servos to one channel.

Ages 14+

TM739082–\$2.95



Servo Extension

Give your servo a little more room to roam with this extension.

Ages 14+

TM739081–\$1.95



Motor Power Cable

For use with the *DC Drive Motor*.

Ages 14+

TM731903–\$1.95

TM736465 *TETRIX*® Thermal-Protected DC Motor Power Cable–\$12.95



180° Servo

Standard rotational range is 90 degrees, but this servo can be operated to 180 degrees with controllers capable of generating a pulse range from 600 usec to 2400 usec.

Ages 14+

TM739197–\$24.95

TETRIX® Continuous Rotation Servo

Featuring fully proportional forward and reverse speed control, this servo rotates continuously in either direction – as needed for wheels. This high-quality servo is designed with a wide neutral dead band to eliminate the “creep” that occurs in many other continuous rotation servos. **Note:** This servo does not have position feedback.

Ages 14+

TM739177–\$26.95



HiTec Servo Horn

Forget those plastic servo horns! This heavy-duty aluminum servo horn lends extra strength to your servo applications.

Ages 14+

TM739020–\$4.95

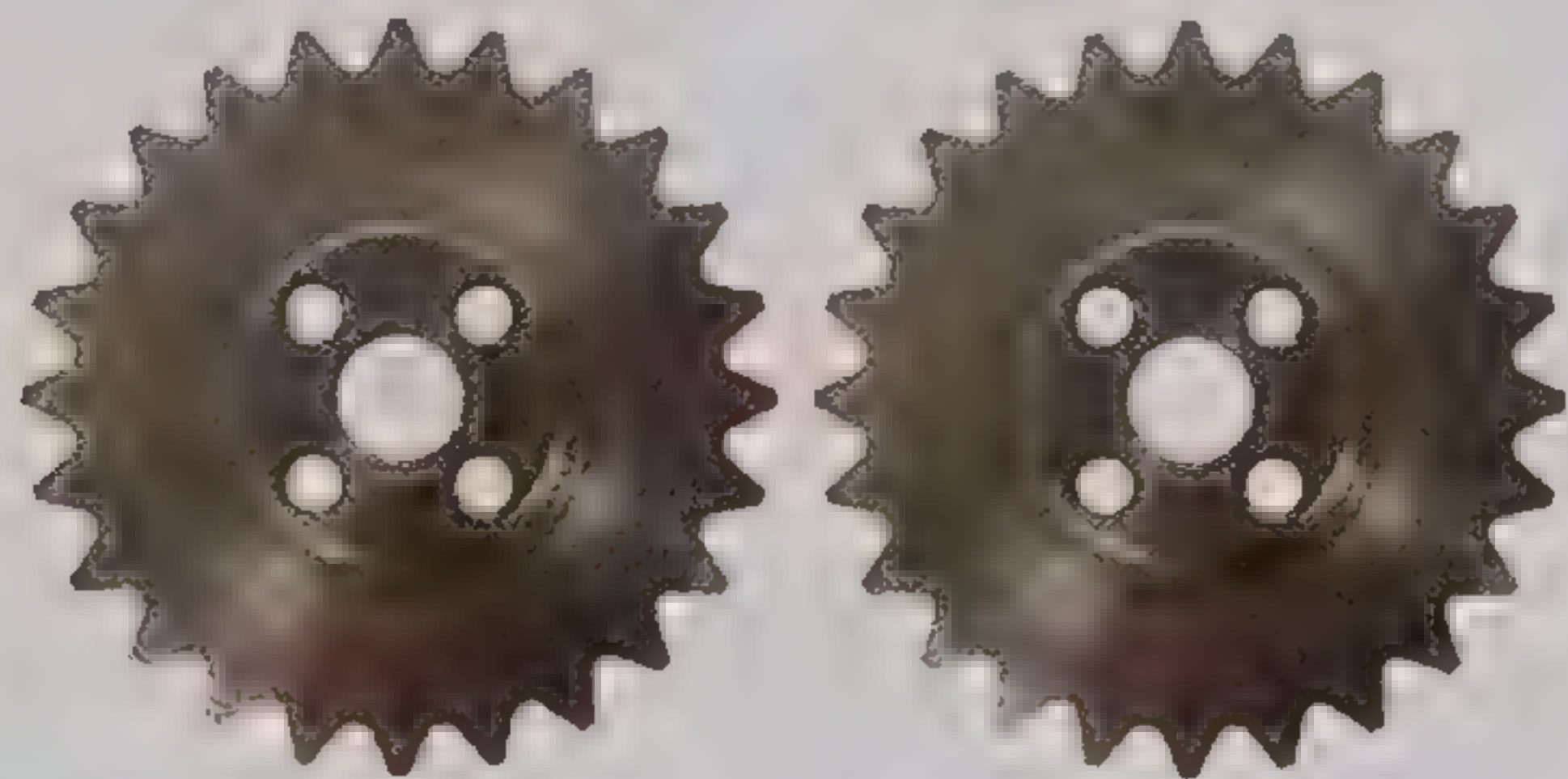


TETRIX® 32-Tooth Sprockets

Show your power with *TETRIX*® sprockets made from heavy-duty aluminum for maximum performance under heavy loads. *TETRIX 32-Tooth Sprockets* are designed to work with the 0.250" *TETRIX* steel chain.

Ages 14+

TM739171 (pkg of 2)—\$29.95

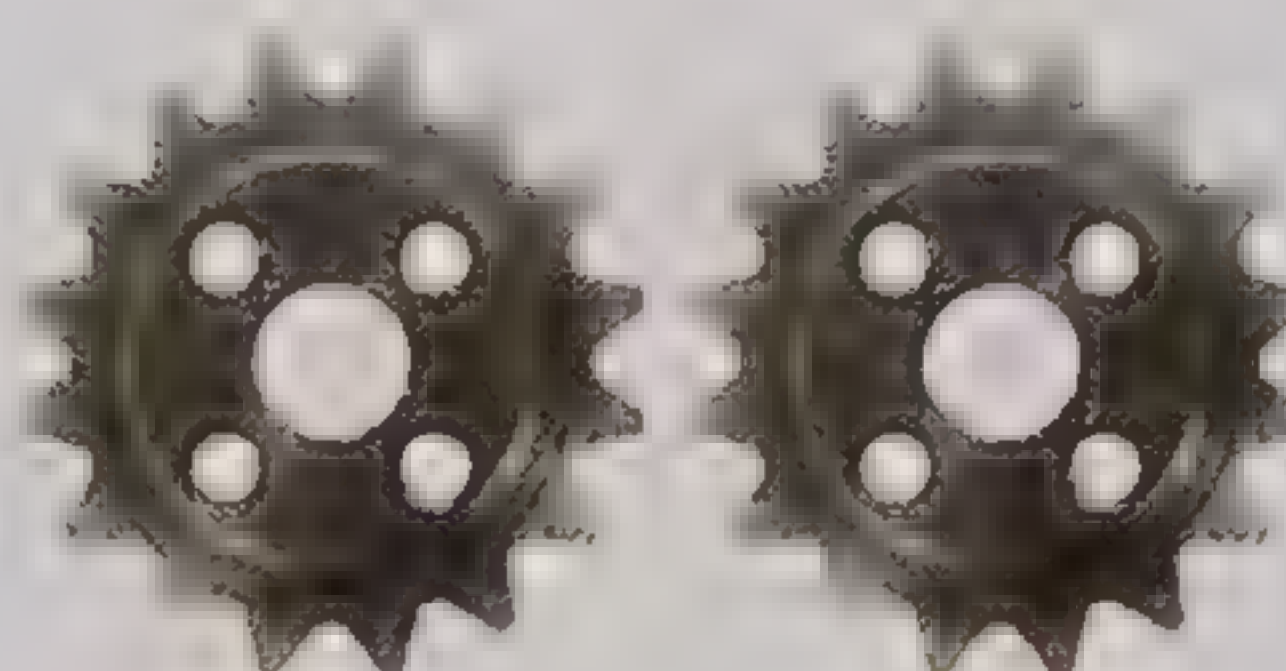


TETRIX® 24-Tooth Sprockets

Show your power with *TETRIX*® sprockets made from heavy-duty aluminum for maximum performance under heavy loads. *TETRIX 24-Tooth Sprockets* are designed to work with the 0.250" *TETRIX* steel chain.

Ages 14+

TM739169 (pkg of 2)—\$22.95



TETRIX® 16-Tooth Sprockets

Show your power with *TETRIX*® sprockets made from heavy-duty aluminum for maximum performance under heavy loads. These *TETRIX Sprockets* are designed to work with the 0.250" *TETRIX* steel chain.

Ages 14+

TM739165—\$16.95

X300 Safety Glasses

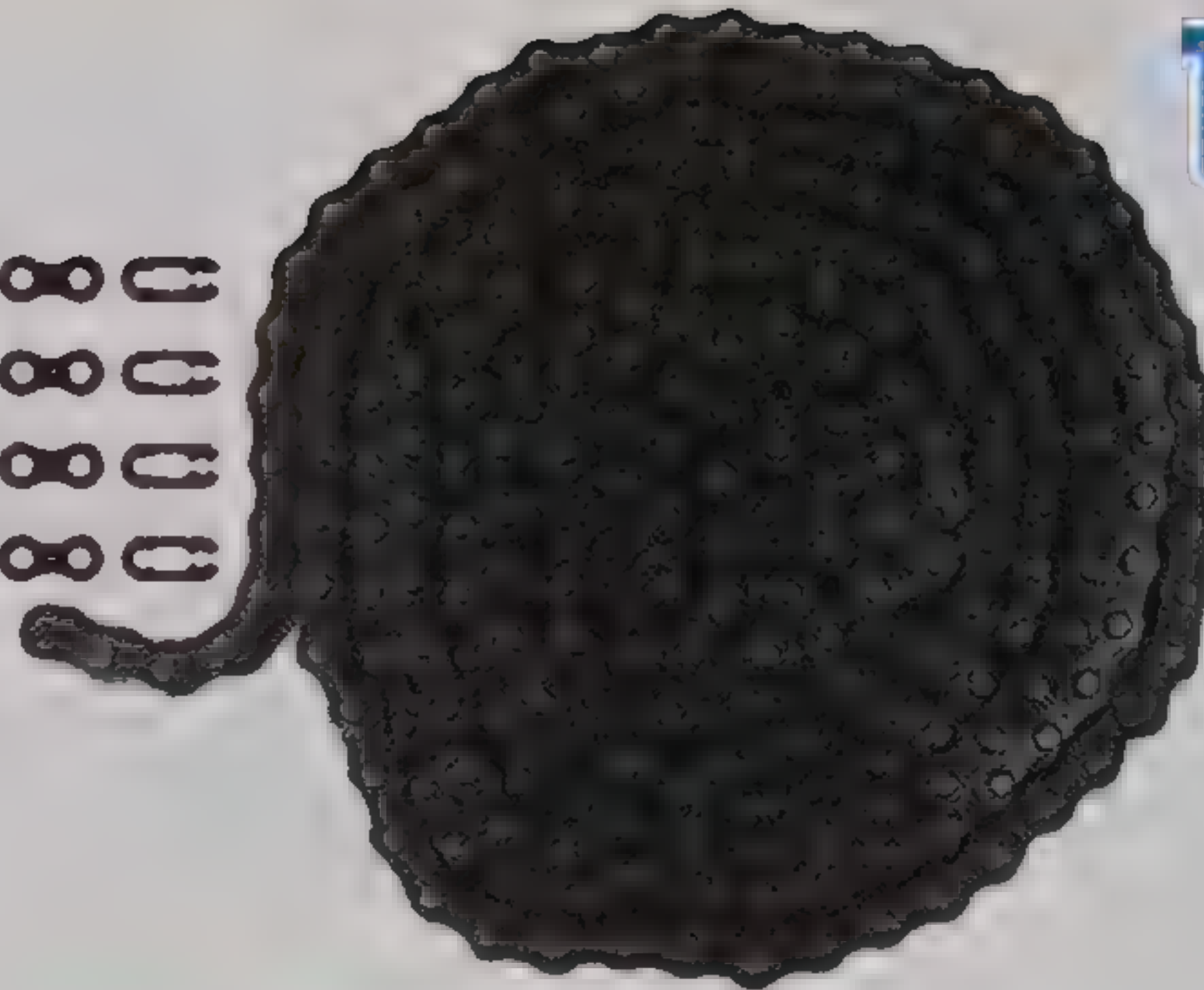
Finally, safety glasses that make eye protection look cool. These lightweight, anti-scratch glasses offer a sleek design while providing impact strength, optical clarity, and 99.9% UV protection. Meets ANSI Z87.1-2003 and ANSI + High Impact Standards.

TM734192 Smoke—\$1.95

TM734189 Amber—\$1.95

TM734191 Mirrored—\$1.95

TM734190 Clear—\$1.95



TETRIX® Chain with Links

TETRIX® Chain with Links is made to work with all ratios of *TETRIX* sprockets. The chain pack includes five feet of 0.250" steel chain and four master connecting links. *TETRIX* chain can easily be cut to custom lengths using the *Chain Breaker Tool*, sold separately.

Ages 14+

TM739173—\$13.95



TETRIX® Sprockets and Chain Pack

Get all of the *TETRIX*® Sprockets and Chain with Links in one package. Made from heavy-duty aluminum for maximum performance under heavy loads, *TETRIX* chain is a 0.250" steel chain packaged in five-foot lengths and includes four master links.

Ages 14+

TM739174 (pkg of 2)—\$69.95

Chain Breaker Tool

With the *Chain Breaker*, quickly and easily change the length of the 0.250" *TETRIX*® Chain with Links. Measure the length you need for your application, position the chain in the breaker block, and turn the side-mounted screw to remove a chain-linking pin. A connecting link (included in the *TETRIX Chain with Links* pack) is used to reconnect the chain.

Ages 14+

TM739217—\$16.95





Brutus Specs

- Axes: 6
- Base: 6" height x 12" diameter
- Base rotation: 90°
- Max horizontal reach: 25"
- Max vertical reach: 35"
- Max gripper width: 3"

Brutus Robotic Arm

An industrial-strength robotic arm that executes commands with precision yet is rugged enough to withstand years of student use. An included Windows computer program enables a PC to control *Brutus*. The teach pendant feature remembers movements and repeats an entire sequence automatically at your command.

Brutus' unique "even-grip" pincers grasp objects up to 3" wide without pushing them away. Rugged aluminum and ABS plastic make up its base and arm components. Powerful motors and servos drive the arm via a system of cogged belts and pulleys. You'll find no wimpy, easily stripped plastic gears on this brute! Ships assembled and includes WIN 2000/XP-compatible software and all computer interface hardware and connections. Requires one available serial port.

Grades 6+

TM754533—\$3,495

Sam Robot

Ideal for the classroom, the *SAM Robot* is a robotic arm that can be "trained" by putting it into position and then saving it on a Windows-based computer with the included programming software. Continue to do this until you have finished the program and then run the program. When students use the *SAM Robot* with the *SAM Trainer Board Package*, sold separately, they learn to maneuver the robot while placing foam balls on five posts on the trainer board.

Each of *SAM*'s five axes have a 90-degree rotation that enables flexibility with accurate movement. Made of 1/4" ABS plastic, *SAM* is 10" tall at home position and has a base width of 5.5" and an arm reach of 11".

Includes the robot, software, power pack, USB cable, and instructions. No assembly required.

System Requirements: Windows XP or 7 and one USB port.

Grades 6+

TM736805—\$1,189



Sam Trainer Board

Add this trainer board to your *SAM Robot* and students can learn to maneuver the robot while placing foam balls on five posts attached to an ABS board that fits snugly against the robot base.

Grades 6+

TM736384—\$55

T-Bot® II - Getting Started Package

Explore lessons in teamwork, robotics, hydraulics, and simple machines with this convenient package. It brings together everything needed for a classroom of 20 to 40 students working in teams of two or four to build the robotic arm and develop teamwork to operate the hydraulic arm's controls.

The T-Bot® II – GS Package includes the following products:

- T-Bot® II Hydraulic Arm 10-Pack
- T-Bot® II Video (DVD)
- HD Bond II (5 two-ounce bottles included)

TM734111 T-Bot® II –

Getting Started Package—\$370

Grades 6+

PITSCO
EDUCATION

A
\$415.20
value!



Visit LEGOeducation.us/tbot.

T-Bot® II Hydraulic Arm

The T-Bot® II is a great project for illustrating hydraulic power and mechanics. See how syringes, tubes, and water work together to power this robotic arm. Each control moves one of the axes, and the four controls can be used one at a time or all at once by a team of students. The T-Bot II is made from laser-cut wooden parts.

Pack includes enough material to build 10 T-Bot IIs.

Grades 6+

TM734110—\$39.95

TM734245 10-Pack—\$379.50

T-Bot® II with Challenge Set

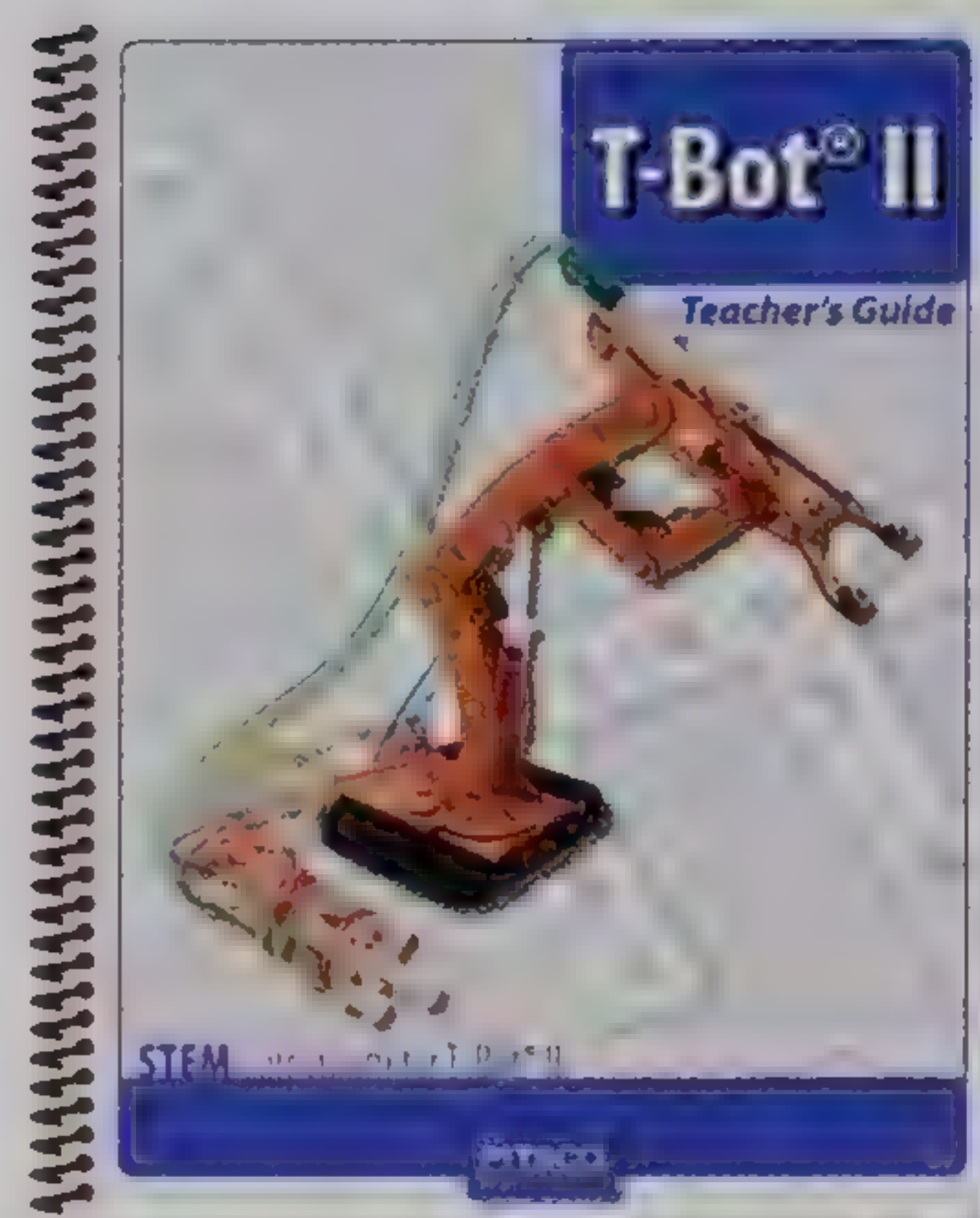
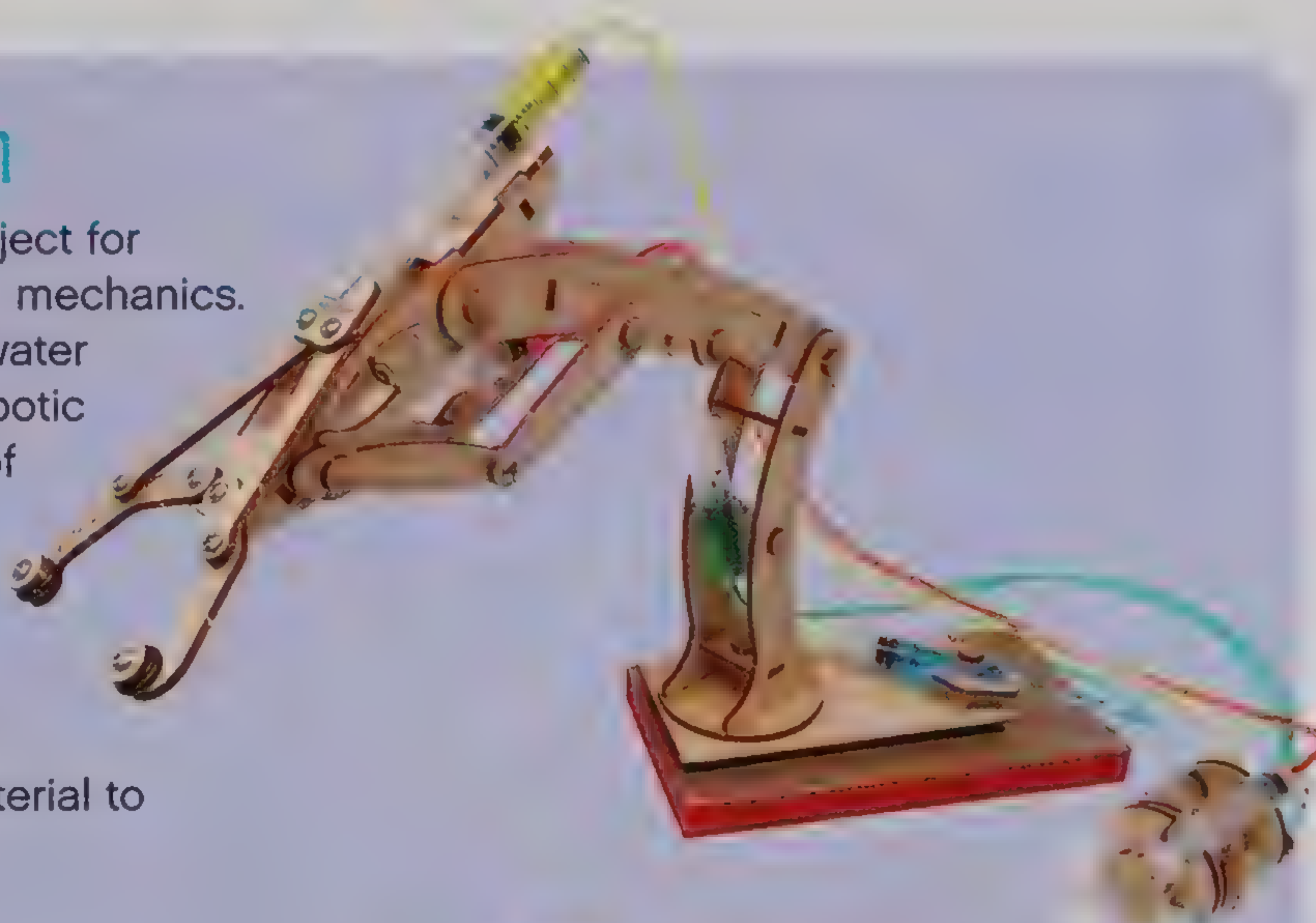
NEW

Get the fun and excitement of the T-Bot® II Hydraulic Arm along with the activity potential of the T-Bot II Challenge Set – and save a little in the process.

Included guides cover construction and offer several activity ideas. Requires screwdriver, scissors, cool-melt glue gun, and white and cool-melt glue, sold separately.

Grades 6+

TM737471—\$56.95



T-Bot® II Teacher's Guide

Pitsco's T-Bot® II hydraulic robot arm delights students, and this guide will delight teachers. The T-Bot II guide overflows with lessons covering the Cartesian coordinate system, simple machines, basic programming, mechanical advantage, electromagnetism, teamwork, and more! Paperback/spiral-bound, 105 pages.

Grades 6+

TM759727—\$24.95

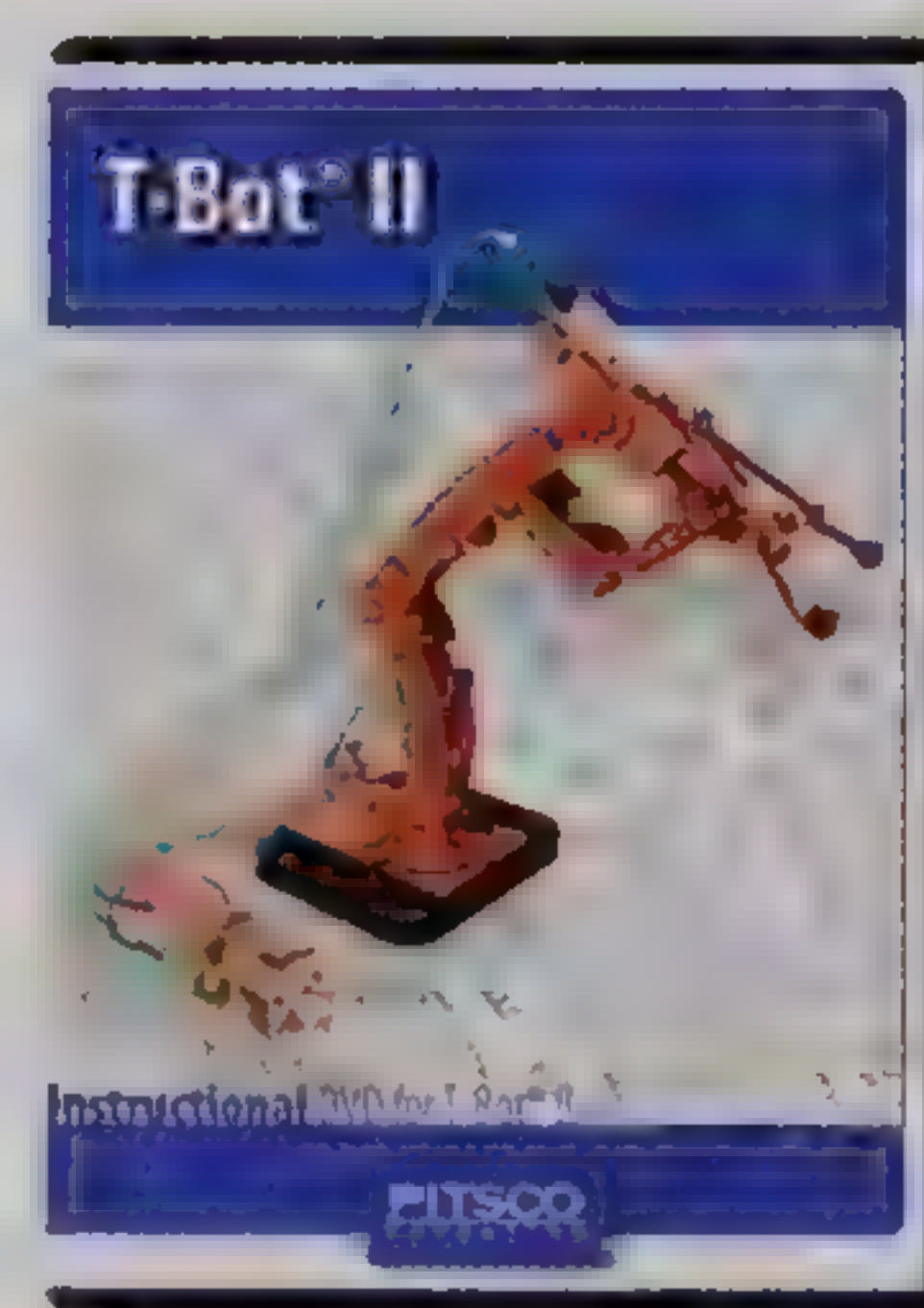
T-Bot® II Video

The Pitsco T-Bot® II is a great project for demonstrating hydraulic power, simple machines, and basic robotics. But building the laser-cut kit is a detailed procedure; this video will smooth the path for your students to succeed in building their T-Bot® II.

Along with easing the building process, the program explains some of the science and mechanics of this fun class project. Closed-captioned. Time: 38 minutes.

Grades 6+

TM734122 DVD—\$24.95



Machines & Mechanisms

Build, Explore, Investigate

Machines & Mechanisms solutions from LEGO® Education enable your students to build, design, and test simple and powered machines. Through hands-on activities, they get an in-depth understanding of mechanical and structural principles built into everyday machines and structures. Early learners through middle schoolers work as young scientists, engineers, and designers while developing design technology, science, and mathematical skills.



Inspire your students to build and explore the future with the Simple & Motorized Mechanisms Set! Let's Create Tomorrow! Visit LEGOspace.com.

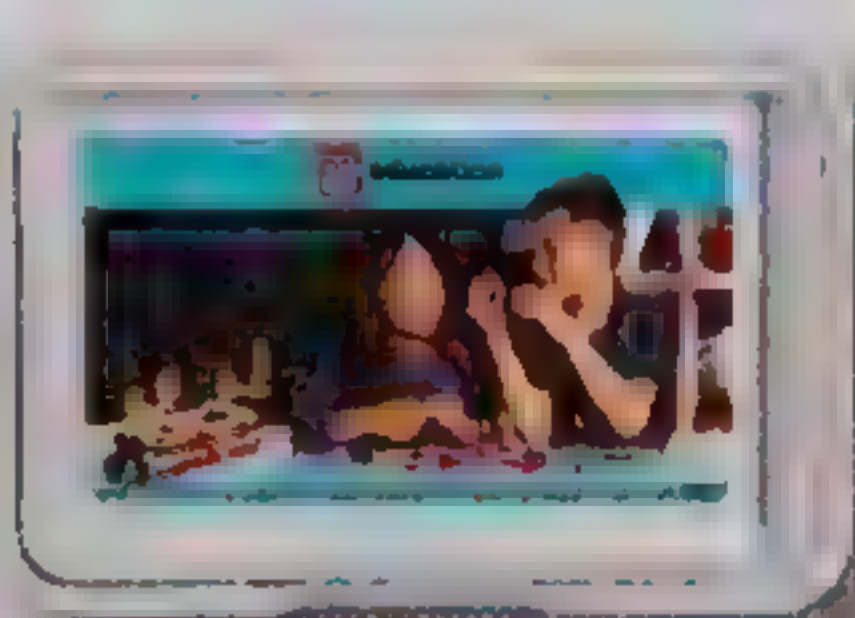


Start with ...

Early Simple Machines Set



Simple Machines Set

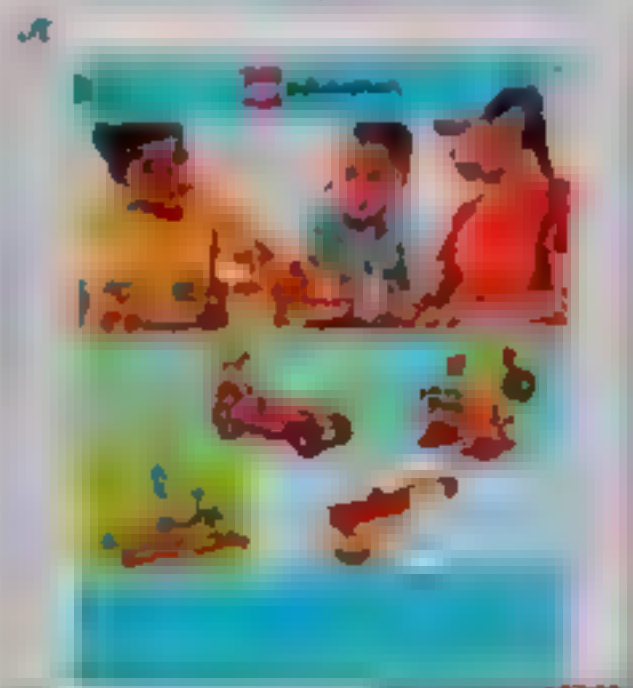


Simple & Motorized Mechanisms Set

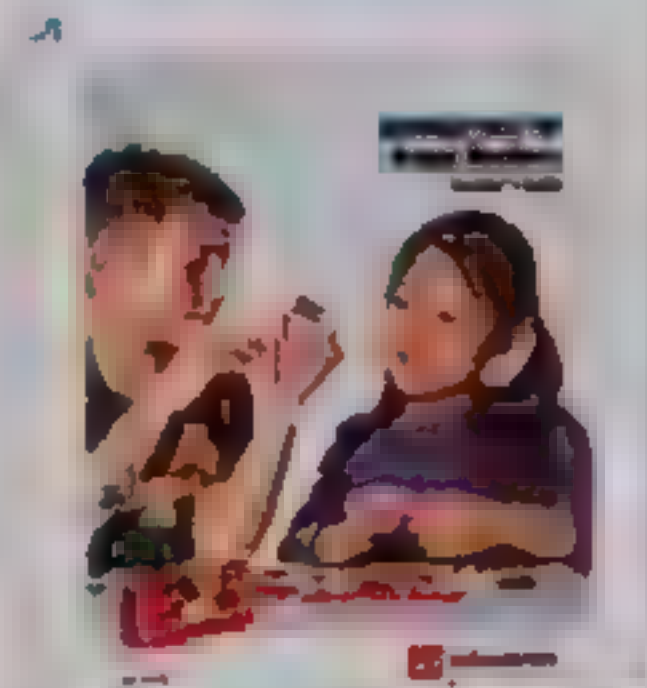


Add Curriculum ...

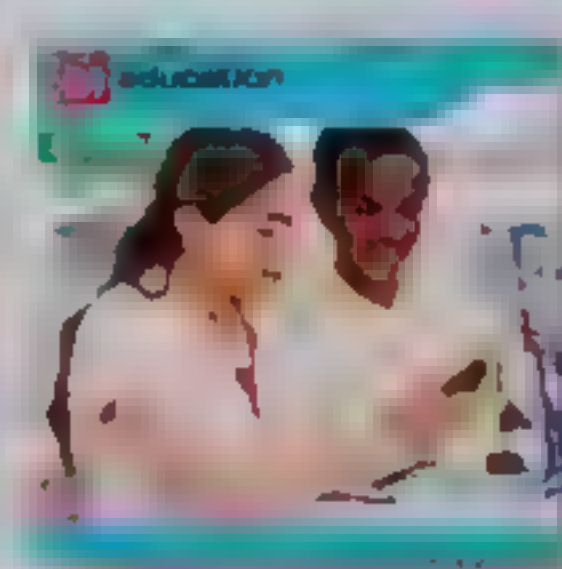
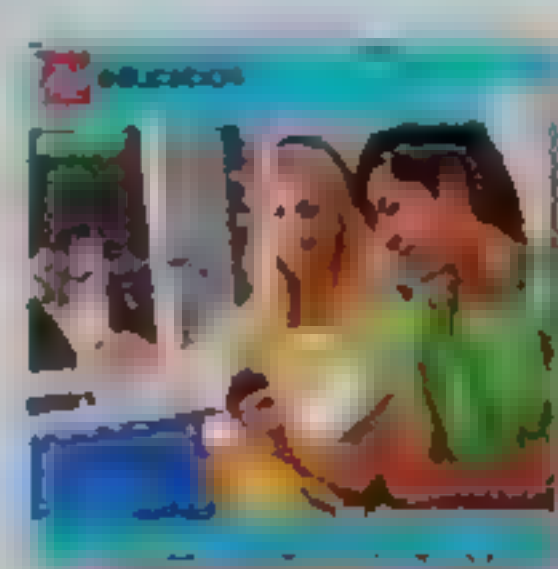
Early Simple Machines Activity Pack



Simple Machines Activity Pack



Simple & Motorized Mechanisms Activity Packs

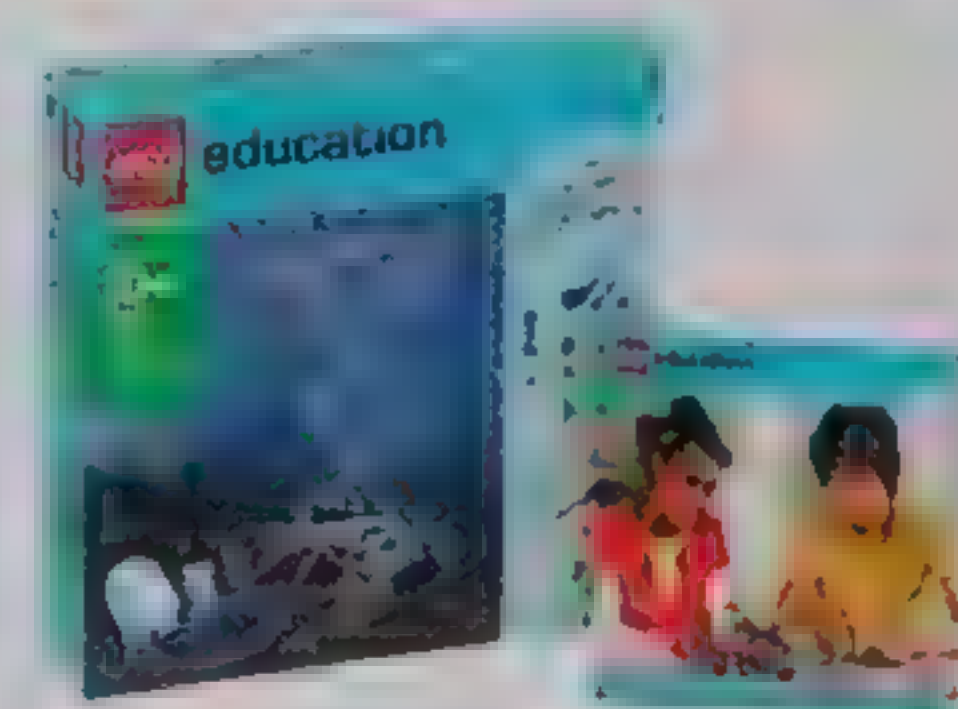


Add Hardware ...

Renewable Energy Set and Activity Pack



Pneumatics Set and Activity Pack



Building a Solid Foundation

The new *Simple Machines Set* is a key component of the LEGO Education elementary learning continuum. The series of inspiring activities coupled with hands-on materials engages students' minds so they master core content today while preparing for the challenges of tomorrow.

Early Simple Machines Set III

Grade 1
(Page 82)



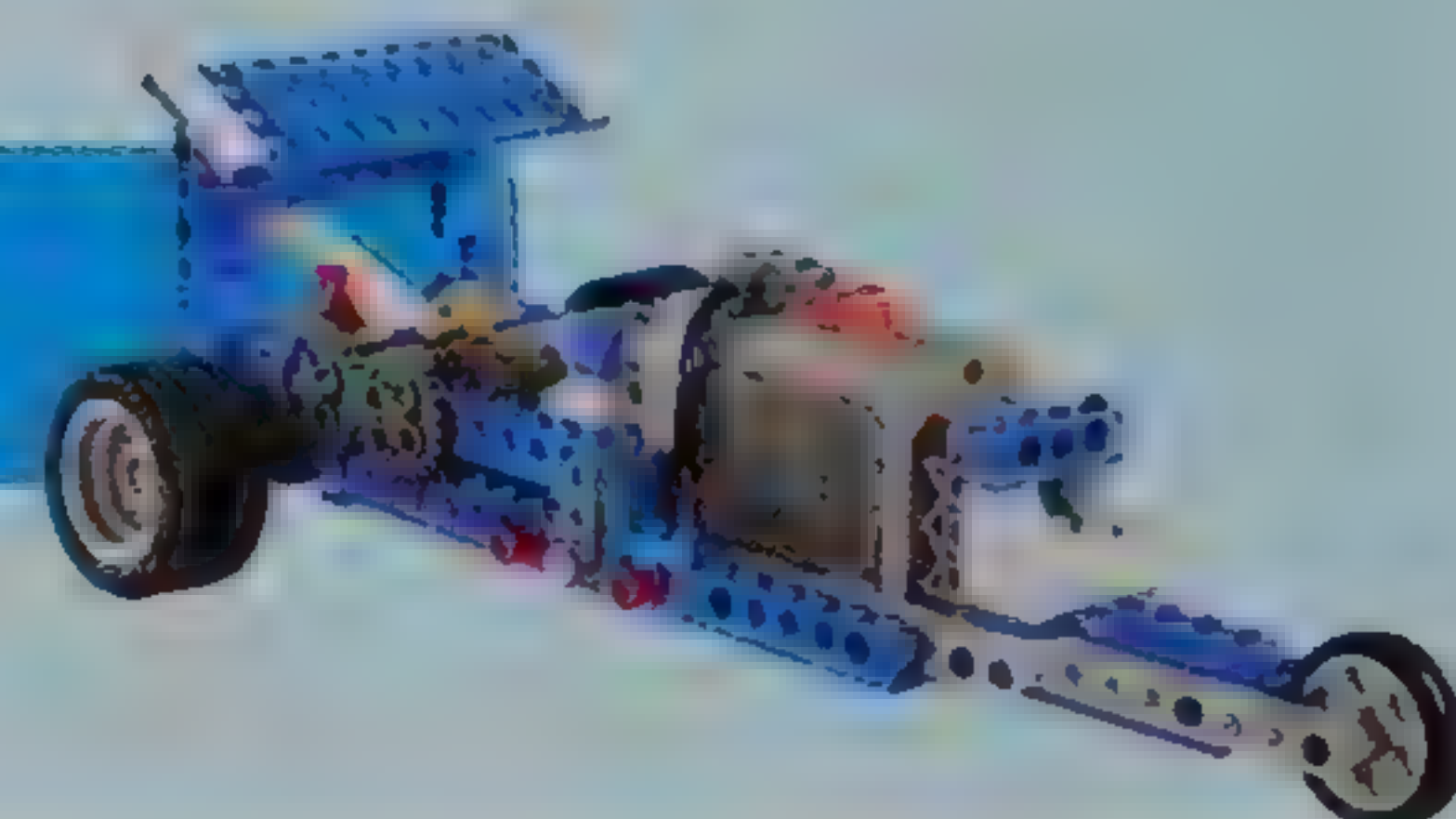
Simple Machines Set

Grades 1-3
(Pages 52-53)



Simple & Motorized Mechanisms Base Set

Grades 4-8
(Pages 54-57)





Hands-On Method Brings Learning to Life!

“Using the hands-on method brought learning to life.” Every student was engaged the entire part of the lesson, and they were internalizing what they were learning versus reading it from a textbook and the terms not connecting to a real experience. One student, Carmen, said, **“I think if we didn’t have this learning experience, it would have just been on paper and it would have been a lot harder to understand.”** As students went through the builds, they didn’t realize how much they were learning. But through review, I have seen that they retained much more than if they would have watched a video clip or if it would have been a paper-and-pen lesson.

The integration of the *Simple Machines* Sets into our science curriculum has been a very successful experience for all. In any classroom, there is a variety of levels of learning, behaviors, and background knowledge. I found the *Simple Machines* Set met the needs of all learners no matter how diverse. It also aligned with our core standards. The *Simple Machines* lesson is something I would have been teaching with or without the

LEGO® Education products; they just made the lesson more engaging and easier to retain. I see these sets being used cross-curricularly because they have a direct tie-in to math, reading, and social studies, which will enable me to use them not just for this lesson but many times throughout the year.

The *Simple Machines* Sets put the learning in the hands of the students. The lesson was very much student driven, and as the teacher, I became the facilitator. Another student, Rylee, said, **“I liked that you got to go at your own pace.”** The students made observations where I had not already guided them along and they were able to successfully hit the nail on the head with what the goal of the build was. Doing the builds in partners made the lesson less overwhelming and each student got to participate 100%, making it a true team effort. The students were so proud of themselves saying, **“This is amazing!”**

*Mandy Arck, fourth-grade teacher,
George Nettels Elementary, Pittsburg, KS*

Learning Targets

Science

- Communicate changes in movements of objects resulting from action
- Observe, predict, and record
- Learn about gravity, friction, and air resistance
- Measure forces and identify their decisions

Technology

- Recognize characteristics of familiar things
- Find out how mechanisms can be used to move things
- Learn about mechanical and pneumatic control systems

Creative Development

- Explore ideas
- Design and make things for different purposes

Mathematics

- Learn about shape and space through practical activities
- Problem solving, reasoning
- Fractions, percentages, and number operations





www



Simple Machines Set

When students combine the *Simple Machines Set* with the *Simple Machines Activity Pack*, they will discover basic physical science concepts such as gears, pulleys, levers, and wheels and axles through observation, reasoning, prediction, and critical thinking.

- Provides an excellent solution for introducing gears, wheels and axles, levers, and pulleys
- Develops students' understanding of science, engineering, and mathematics concepts
- Fine-tunes teamwork, motor, and problem-solving skills
- Includes more than 15 hours of in-class activities
- Aligns with both NSTA science and NCTM math standards when combined with the activity pack
- Contains 200+ LEGO® elements, delivered in a sturdy storage container

Ages 7+

TM979689—\$49.95

TM991900 2-Pack—\$97.95 **Save \$1.95**

TM991901 4-Pack—\$194.95 **Save \$4**

TM991902 6-Pack—\$292.95 **Save \$6**

TM991903 8-Pack—\$387.95 **Save \$11**

TM991904 10-Pack—\$482.95 **Save \$16**

TM991905 12-Pack—\$575.95 **Save \$23**



Simple Machines Activity Pack

The *Simple Machines Activity Pack* features a series of 16 principle activities, four main activities, and four problem-solving hands-on activities that will develop elementary students' understanding of basic physical science concepts such as gears, pulleys, levers, and wheels and axles through observation, reasoning, prediction, and critical thinking. Includes a CD-ROM with teachers notes, student worksheets, images for classroom use, classroom management tips, glossary, and element survey.

Key Learning Targets:

- Observing and investigating simple machines: gears, wheels and axles, levers, and pulleys; developing scientific inquiry skills: fair testing, predicting and measuring, collecting data, and describing outcomes
- Identifying a need or problem; following a design brief, building a model, testing and evaluating, and applying the relevant vocabulary
- Counting, drawing geometric shapes, calculating, measuring, and predicting outcomes

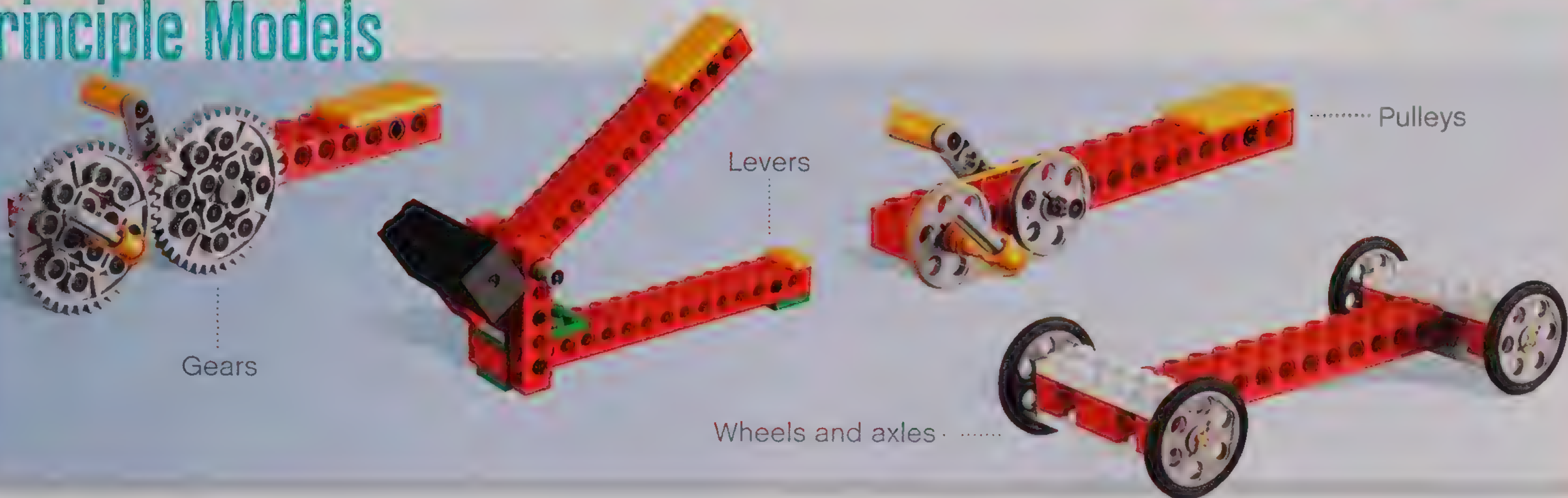
Ages 7+

TM209689—\$64.95

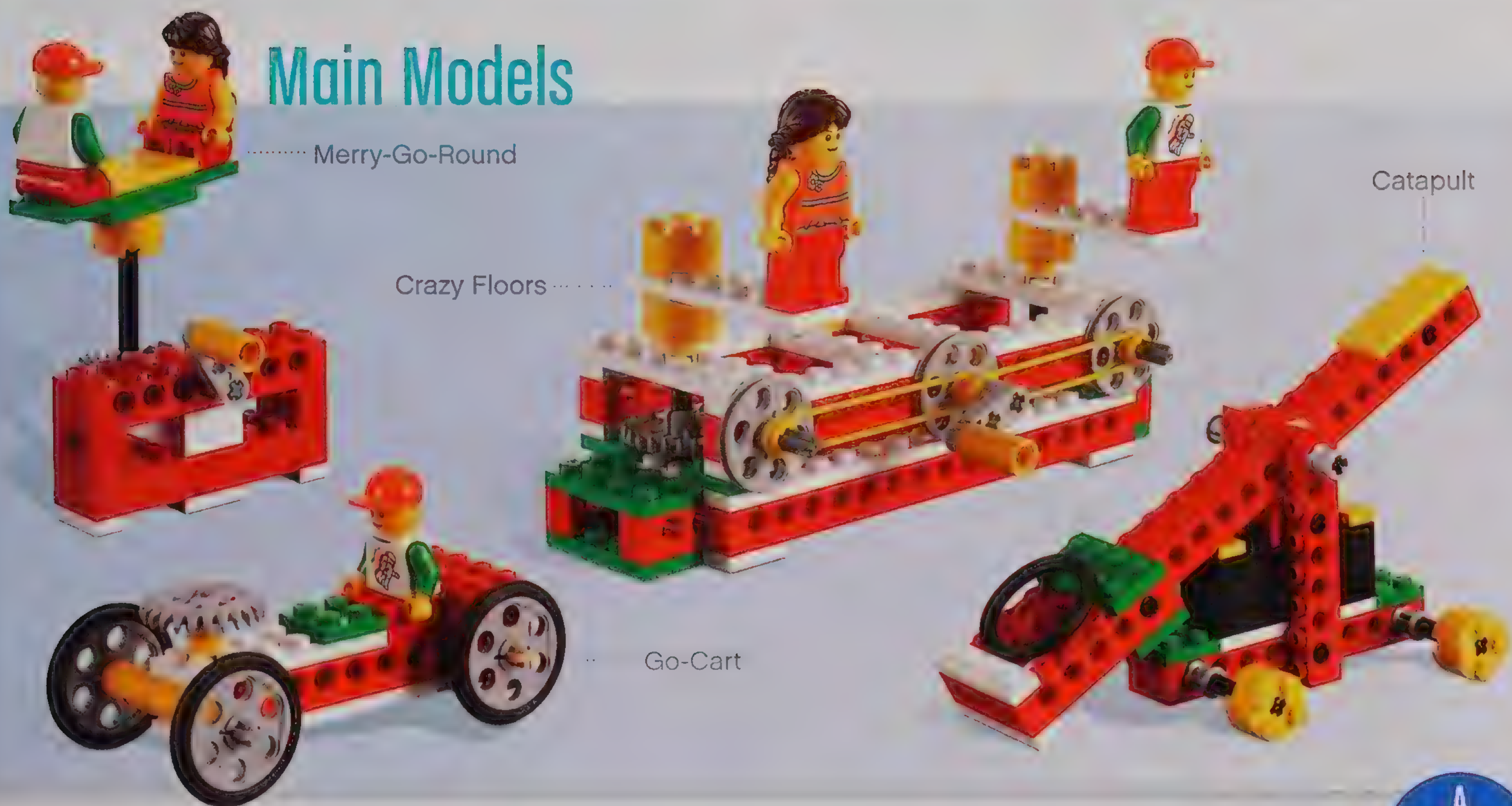
Aligns with **NSTA**
and **NCTM** standards.



Principle Models



Main Models



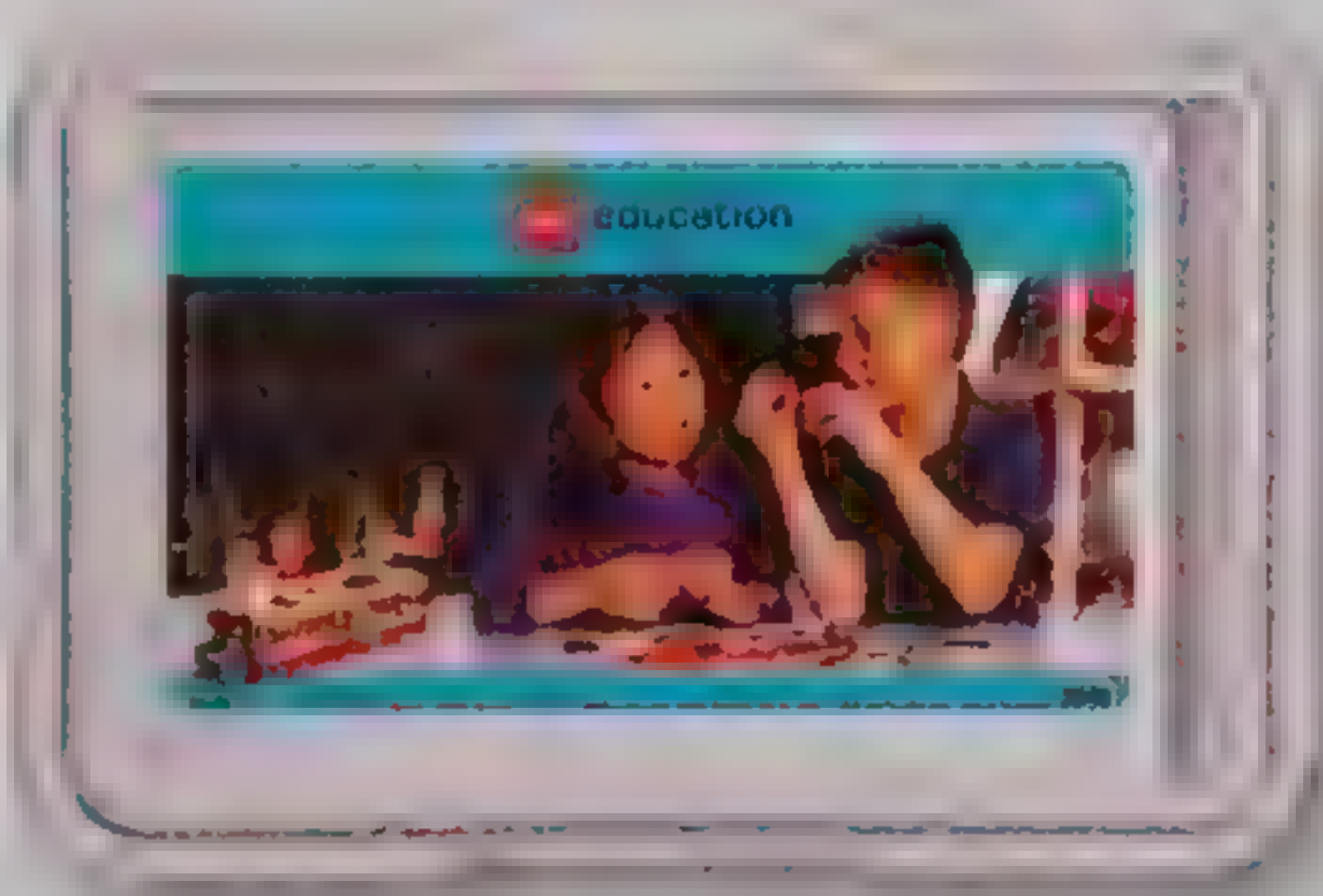
NEW

A
\$664.35
value!

TM991890 Elementary Simple Machines – Getting Started Package – \$637.95

LEGO® Simple Machines Set

12x



Ages 7+

Simple Machines Activity Pack

1x



TM991972 Simple Machines – Getting Started Package with Professional Development – \$2,437.95

Simple and Motorized Mechanisms Base Set

Students will build and explore machines and mechanisms, investigate motorized machines, calibrate and capture wind, and study gearing mechanisms with this core brick set. Combine the *Simple and Motorized Mechanisms Set* with curricular-relevant activity packs and the *Pneumatics Add-On Set* and *Energy Add-On Set* to carry out a broad range of activities within design technology, science, and mathematics.

Key Benefits:

- Ideal for investigating basic principles of simple machines, mechanisms, and structures
- Students can experiment with forces, motion, and speed.
- Building instruction booklets enable students to work together.
- 9V Motor and Battery Pack make models come to life.
- Can be combined with several activity packs and add-on sets to expand learning opportunities

Ages 8+

TM779686—\$139.95

TM991756 2-Pack—\$275.95 **Save \$3**

TM991518 4-Pack—\$548.95 **Save \$10**

TM991757 6-Pack—\$818.95 **Save \$20**

TM991519 8-Pack—\$1,085.95 **Save \$33**

TM991758 10-Pack—\$1,350.95 **Save \$48**

TM991759 12-Pack—\$1,612.95 **Save \$66**



www

Introducing Simple and Motorized Mechanisms Activity Pack

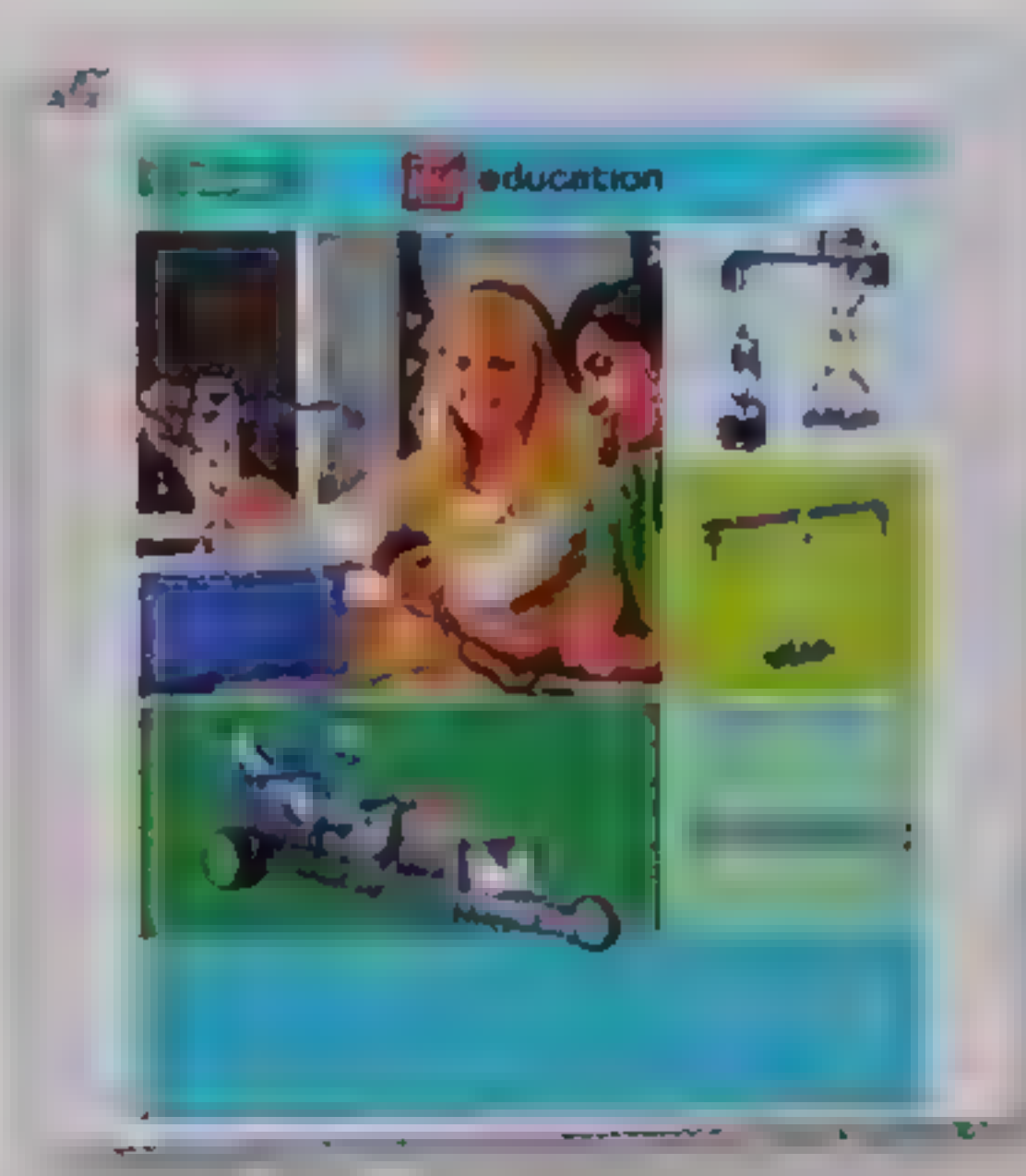
When used with the *Simple and Motorized Mechanisms Base Set*, this activity pack gives students a fundamental understanding of simple machines, structures, and mechanisms. Students will investigate the principles of simple machines, mechanisms, and structures; experiment with balanced and unbalanced forces and friction; measure distance, time, speed, and weight; and much more. The activity pack comes in a three-ring binder and provides 30 lessons featuring 37 principle model activities; 14 main activities, each with extension activities; and six problem-solving activities. Also included is a CD-ROM with teacher's notes, student worksheets, and glossary.

Key Learning Targets:

- Investigating the principles of simple machines, mechanisms, and structures
- Experimenting with balanced and unbalanced forces
- Measuring distance, time, speed, and weight
- Investigating powered forces and motion, speed, and pulling power

Ages 8+

TM209686—\$119.95



www

Advancing with Simple and Motorized Mechanisms Activity Pack

After students have mastered the basics of simple machines, structures, and mechanisms, they are ready to advance with this activity pack. The activity pack comes in a three-ring binder and provides 20 lessons featuring 38 principle model activities; four main activities, including extension activities; and eight problem-solving activities designed to give students a more in-depth understanding of simple machines, mechanisms, structures, and mechanical advantage. Also included is a CD-ROM with teacher's notes, student worksheets, and glossary.

Key Learning Targets:

- Mechanical advantage
- Equilibrium
- Effect of force on an object
- Identifying dependent and independent variables

Ages 8+

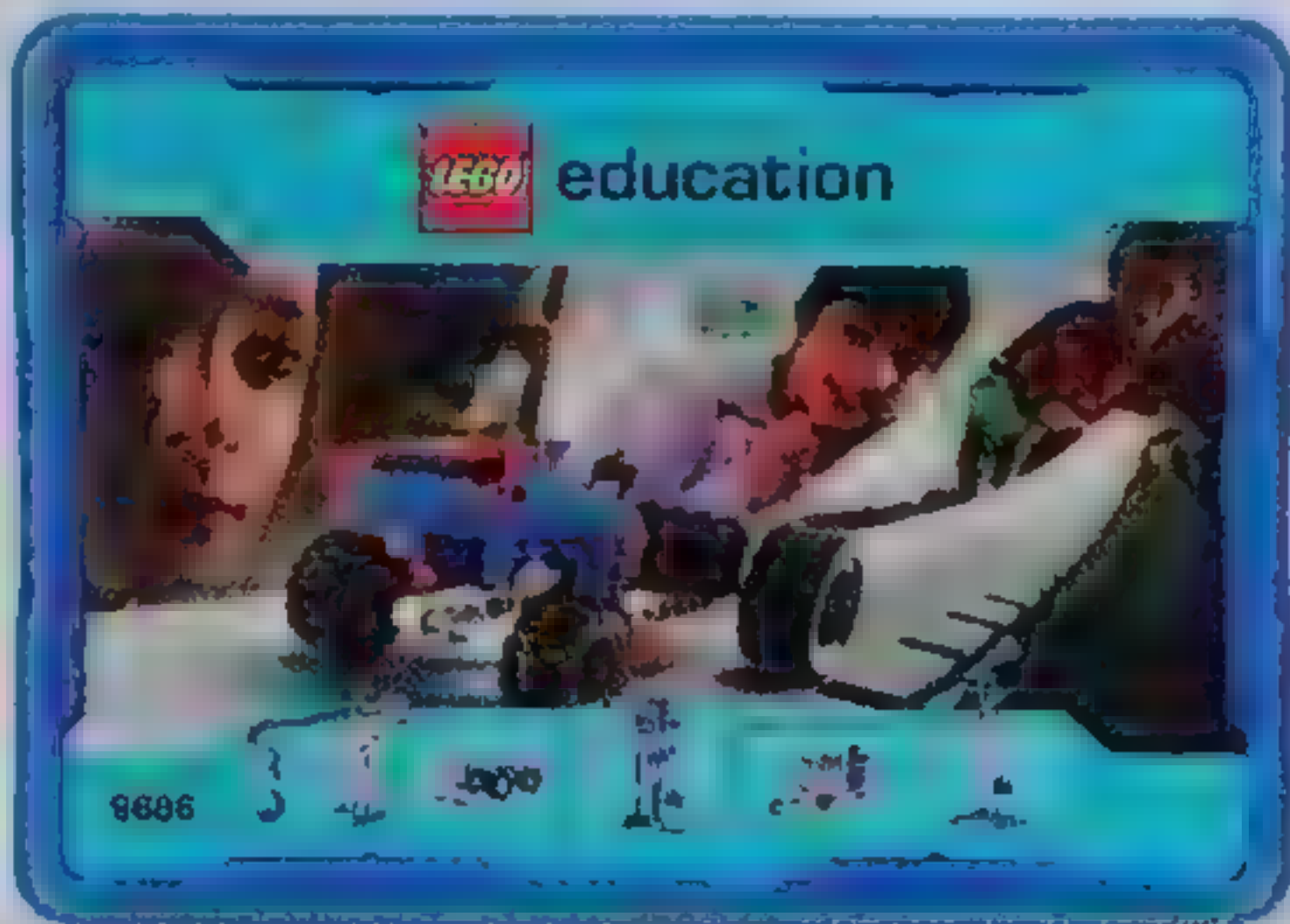
TM209687—\$67.95

A
\$1,799.35
value!

TM991516 Introducing Simple and Motorized Mechanisms - Getting Started Package - \$1,727.95

Simple and Motorized Mechanisms Base Set

12x



Introducing Simple and Motorized Mechanisms Activity Pack

1x



Ages 8+



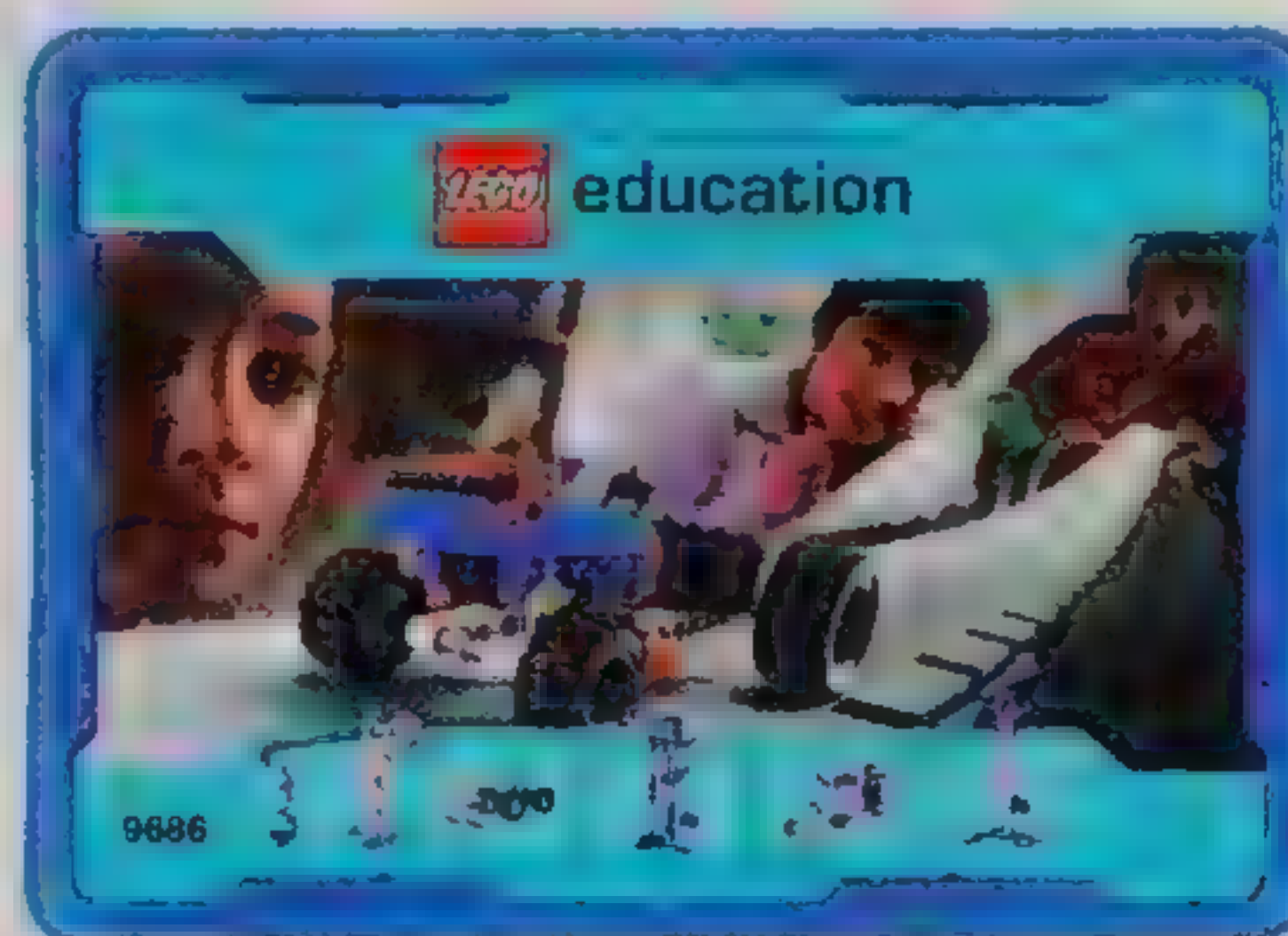
TM991793 Introducing Simple and Motorized Mechanisms - Getting Started Package with Professional Development - \$3,527.95

A
\$1,747.95
value!

TM991517 Advancing with Simple and Motorized Mechanisms - Getting Started Package - \$1,677.95

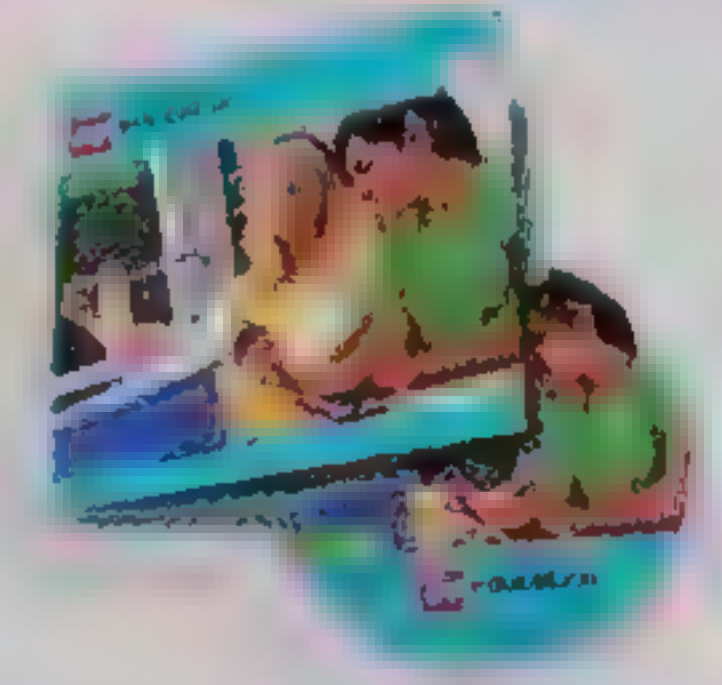
Simple and Motorized Mechanisms Base Set

12x



Advancing with Simple and Motorized Mechanisms Activity Pack

1x



Ages 8+



TM991794 Advancing with Simple and Motorized Mechanisms - Getting Started Package with Professional Development - \$3,477.95



Power Functions Extension Wire 20"

Build your Power Functions-equipped models bigger, better, and more mechanized and motorized than ever before by adding this 20-inch extension wire!

Ages 7+

TM778871 - \$4.95



Power Functions XL-Motor

Use the XL-Motor to animate larger builds. Requires Power Functions Battery Box (778881), sold separately.

Ages 7+

TM778882 - \$10.95

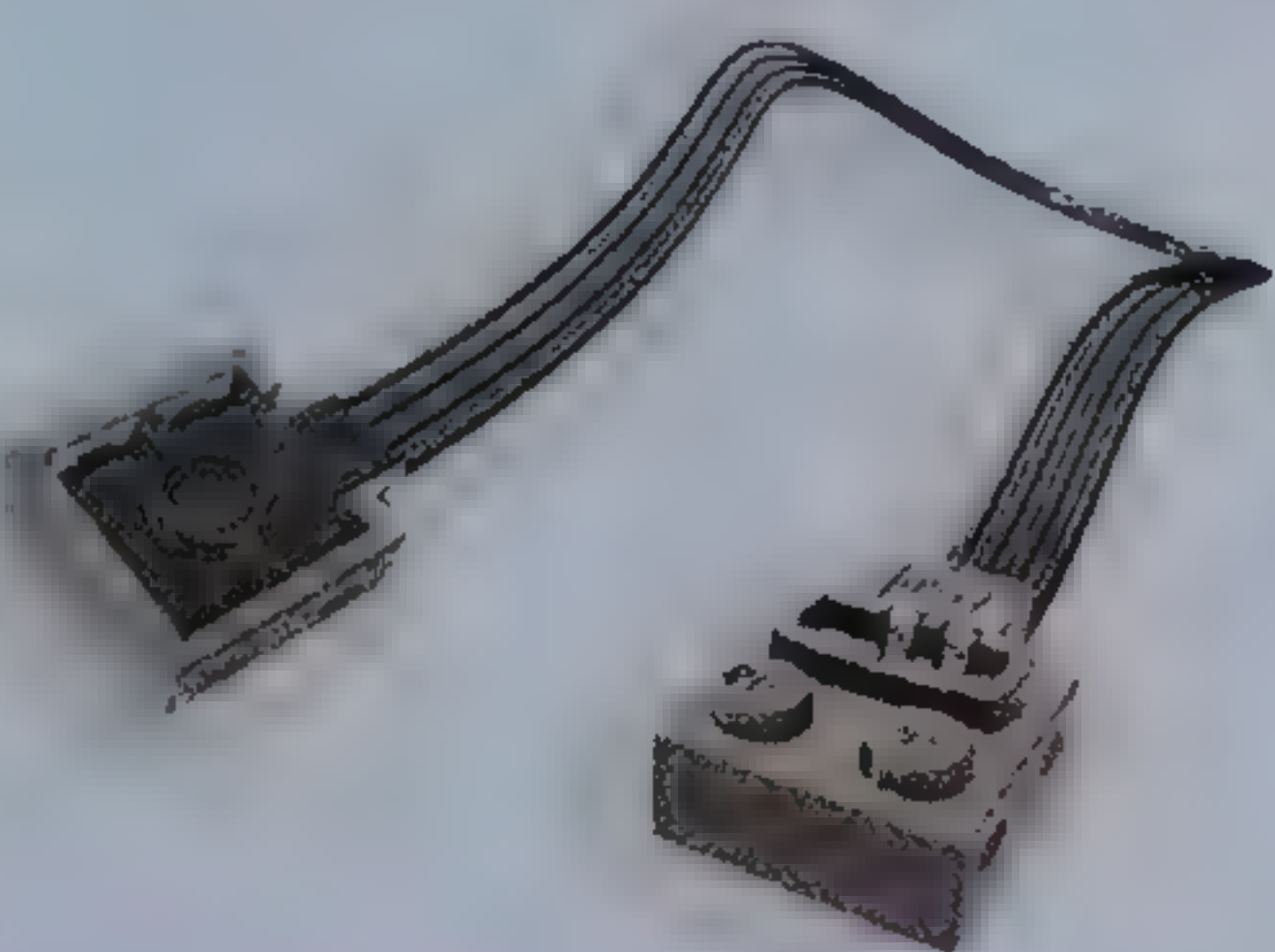


Power Functions M-Motor

Use the Power Functions M-Motor with the new Power Functions connector to bring your LEGO® models to life.

Ages 7+

TM978883 - \$7.95



Power Functions Extension Wire 8"

Power up your LEGO® Power Functions creations with this 8" extension wire. Enables you to connect your LEGO 9V electric systems to the new Power Functions system.

Ages 7+

TM778886 - \$3.95



DC Charger

Recharge your battery! This standard 10V DC transformer plugs into an AC outlet to recharge your Rechargeable DC Battery (979693) for the NXT Intelligent Brick or your Power Functions Rechargeable Battery Box (778878), sold separately.

Ages 7+

TM778887 - \$24.95



Power Functions Rechargeable Battery Box

This rechargeable battery box has built-in lithium polymer batteries for low weight and maximum power. Use it in your LEGO® Power Functions models and never have to use disposable batteries again!

Ages 7+

TM778878 - \$50.95



Renewable Energy Add-On Set

When the *Renewable Energy Add-On Set* is combined with the customized activity pack and the *Simple and Motorized Mechanisms Base Set*, students will explore renewable energy sources; investigate energy supply, transfer, accumulation, conversion, and consumption; and use measurements and data analysis to describe and explain outcomes through hands-on activities and exciting, real-life models.

Key Benefits:

- Features a solar panel, turbine blades, a generator, and unique LEGO® *Energy Meter*
- Building and exploring renewable energy through real-life models
- Enables students to experiment using energy from their own bodies
- Compatible with the LEGO MINDSTORMS® *Education NXT Base Set*

Ages 8+

TM779688—\$99.95

TM991714 2-Pack—\$196.95 **Save \$2**

TM991715 4-Pack—\$391.95 **Save \$7**

TM991716 6-Pack—\$584.95 **Save \$14**

TM991717 8-Pack—\$775.95 **Save \$23**

TM991718 10-Pack—\$964.95 **Save \$34**

TM991719 12-Pack—\$1,151.95 **Save \$47**



www

Renewable Energy Activity Pack

The *Renewable Energy Activity Pack* comes on a CD-ROM and includes six 45-minute lessons and four problem-solving activities that enable students to explore renewable energy sources.

Key Learning Targets:

- Exploring renewable energy sources
- Investigating energy supply, transfer, accumulation, conversion and consumption
- Using measurement and data analysis to describe and explain outcomes

Ages 8+

TM209688—\$67.95

Renewable Energy Add-On Value Pack

This pack is designed for those who already have a classroom supply of *Simple and Motorized Mechanisms* or LEGO® MINDSTORMS® *Education* sets and are ready to incorporate green learning into their classroom. This pack includes:

- 12 Renewable Energy Add-On Sets
- Renewable Energy Activity Pack

Ages 8+

TM991713—\$1,215.95

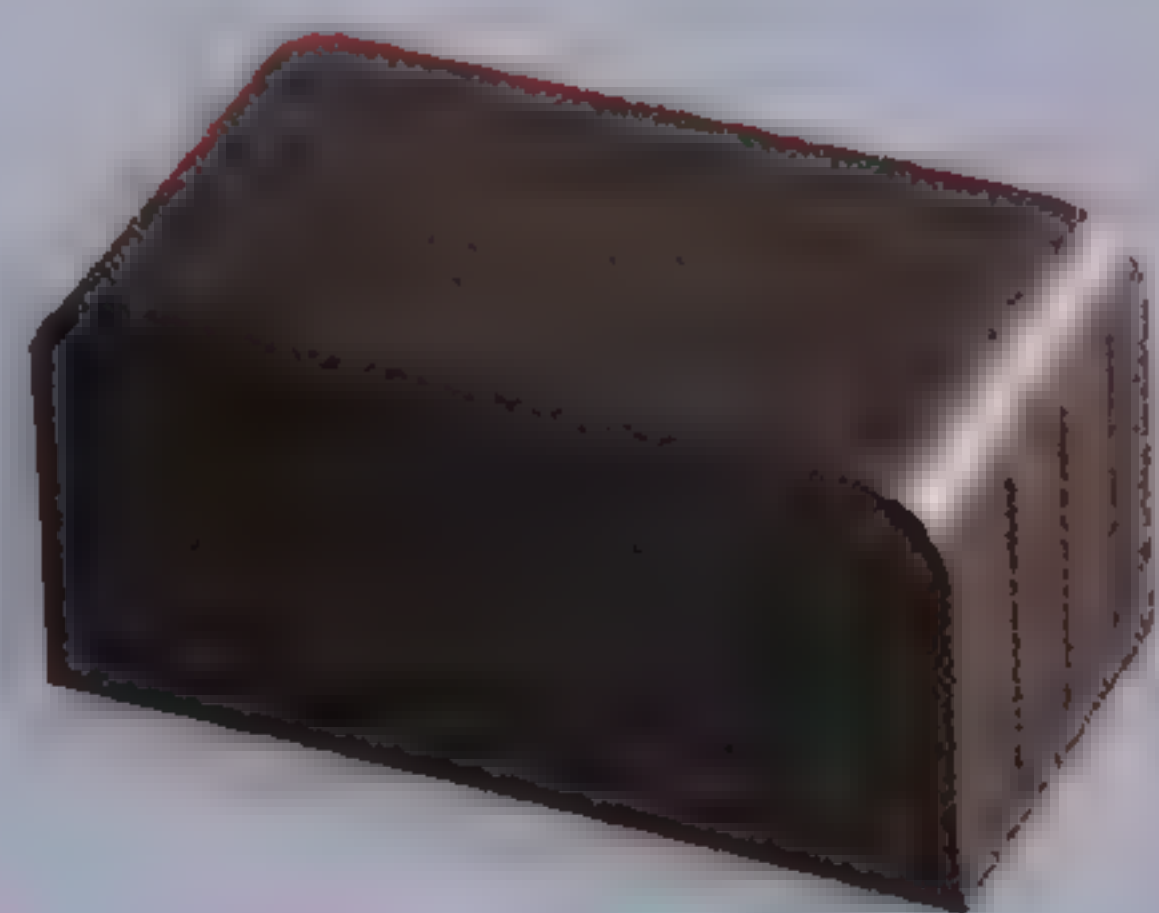


Energy Display

This element displays energy storage level in joules and input and output in volts, watts, and amps. Combine with *Energy Storage* (979669) to form the LEGO® *Energy Meter*.

Ages 8+

TM979668—\$49.95

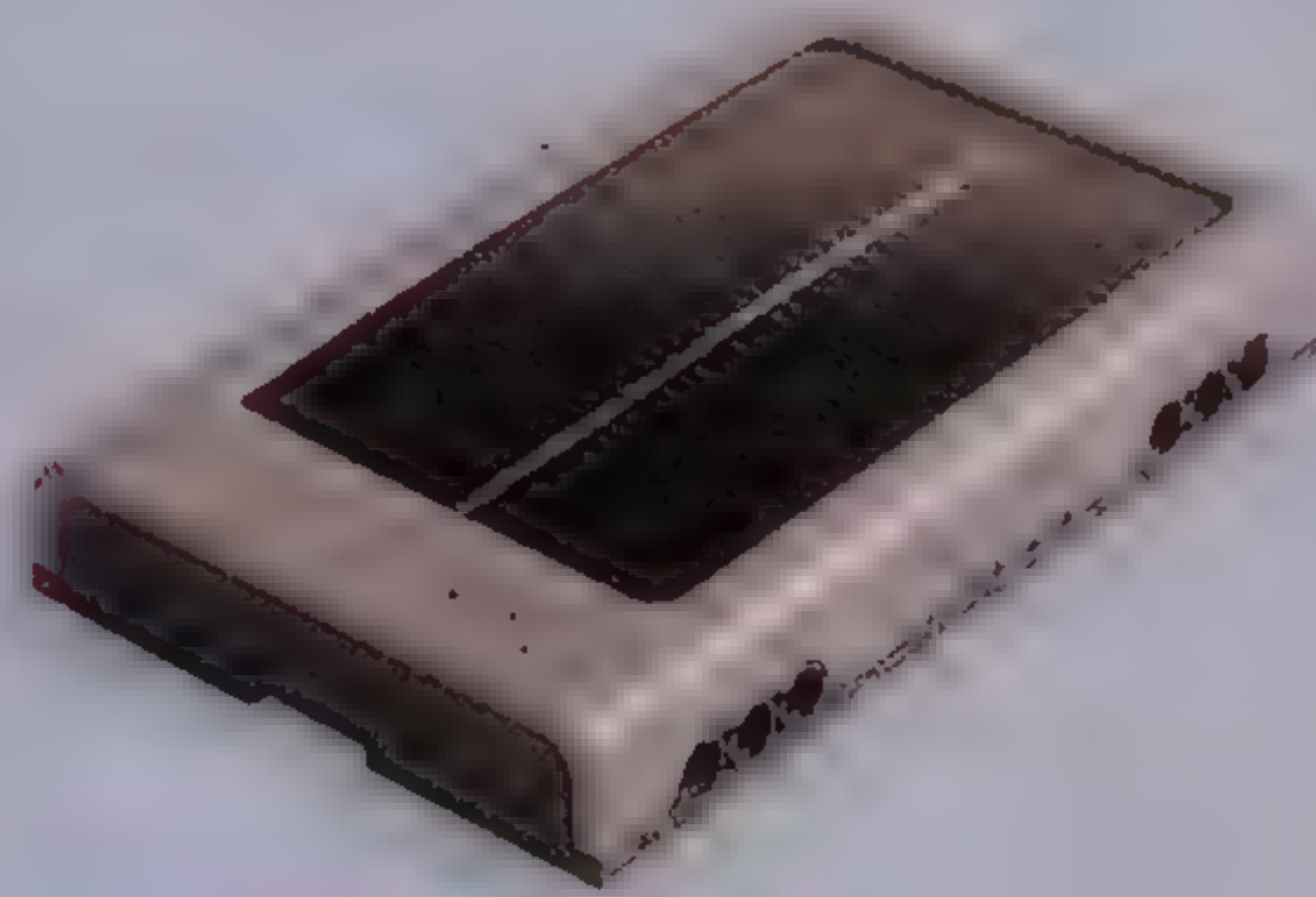


Energy Storage

This NiMH battery with connector is designed to be combined with the *Energy Display* (979668). Storage capacity: 150 mAh.

Ages 8+

TM979669—\$16.95



Solar Panel

The LEGO® *Solar Panel* provides sufficient power to operate the LEGO *Energy Meter* and motors. It delivers 5V, 4mA in direct light from a 60W incandescent bulb positioned 25 cm from the solar panel (2000 lux).

Ages 8+

TM979667—\$39.95



Power Functions Light

Add bright LED lights to your models to create glowing eyes, illuminated headlights, and much more!

Ages 7+

TM778870—\$6.95



Pneumatics Add-On Set

With the customized activity pack and the *Simple and Motorized Mechanisms Base Set*, students will explore power systems and components, sequence and control, pressure, prototyping, kinetic and potential energy, and much more through hands-on activities and exciting, real-life models.

Key Benefits:

- Building and exploring pneumatics through real-life models
- 31 specialty elements, including pumps, cylinders, valves, an air tank, tubes, and a manometer

Ages 10+

TM979641—\$57.95

TM991965 2-Pack—\$113.95 **Save \$2**

TM991966 4-Pack—\$226.95 **Save \$3**

TM991967 6-Pack—\$338.95 **Save \$8**

TM991968 8-Pack—\$449.95 **Save \$13**

TM991969 10-Pack—\$558.95 **Save \$19**

TM991970 12-Pack—\$667.95 **Save \$26**



E-Motor

The *E-Motor* is a 9V motor with an internal gearbox. Its 9.5:1 gearing ratio provides a maximum torque of 4.5 Ncm and approximately 800 rotations per minute without load. It also functions as a very efficient generator.

Ages 7+

TM979670—\$16.95



Power Functions Battery Box

Can power two *XL-Motors* or four *M-Motors* at the same time. Requires 6 AA (1.5V) batteries, sold separately.

Ages 7+

TM778881—\$7.95

Simple and Motorized Mechanisms

WWW

Pneumatics Activity Pack

The *Pneumatics Activity Pack* comes on a CD-ROM and includes 14 principle model activities, four 45-minute pneumatics lessons each with extension activities, and two additional problem-solving tasks.

Key Learning Targets:

- Investigate power systems and components
- Explore sequence and control
- Study pressure measuring in psi and bar

Ages 10+

TM209641—\$67.95

Pneumatics Add-On Value Pack

This set is designed for those who already have the *Motorized Mechanisms Getting Started Package* and are ready to dive into pneumatics. The pack includes:

- 12 Pneumatics Add-On Sets
- Pneumatics Activity Pack

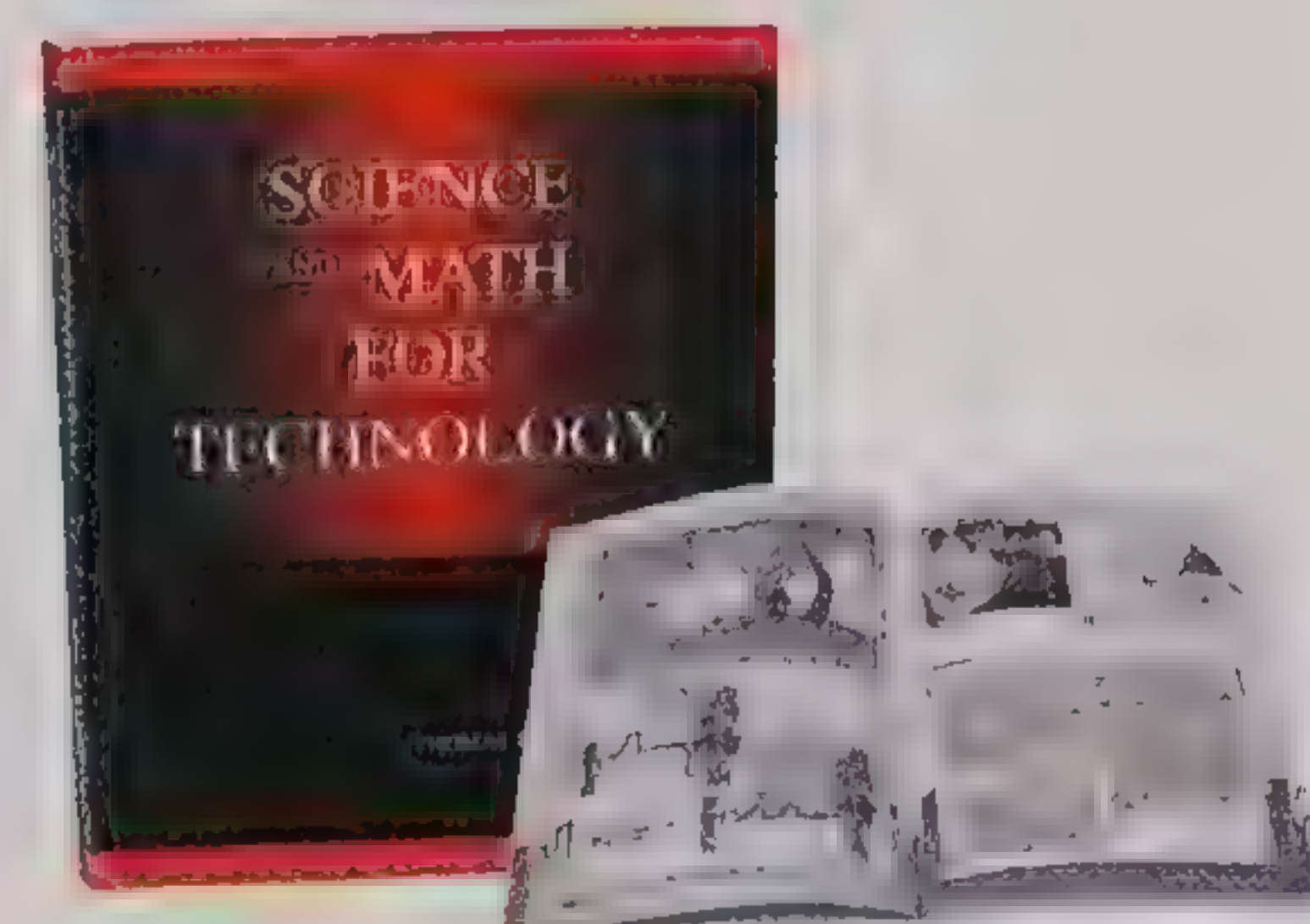
Ages 10+

TM991450—\$707.95

Science and Math For Technology

Use this book as a reference guide for science concepts and math formulas and their relation to technology. Paperback, 241 pages. Grades K+

TM757918—\$21.95



Solar Vehicles – Getting Started Package

Saving energy in transportation is at the top of the list these days. This package provides materials for 30 students to design, build, and test their own solar cars, including six *Ray Catcher Solar Panels* that students share.

The *Solar Vehicles – GS Package* includes the following products:

- Ray Catcher Sprint Deluxe 30-Pack
- Dry Powder Graphite (2 tubes included)
- Ray Catcher Video (DVD)

TM735567 Solar Vehicles – Getting Started Package—\$465

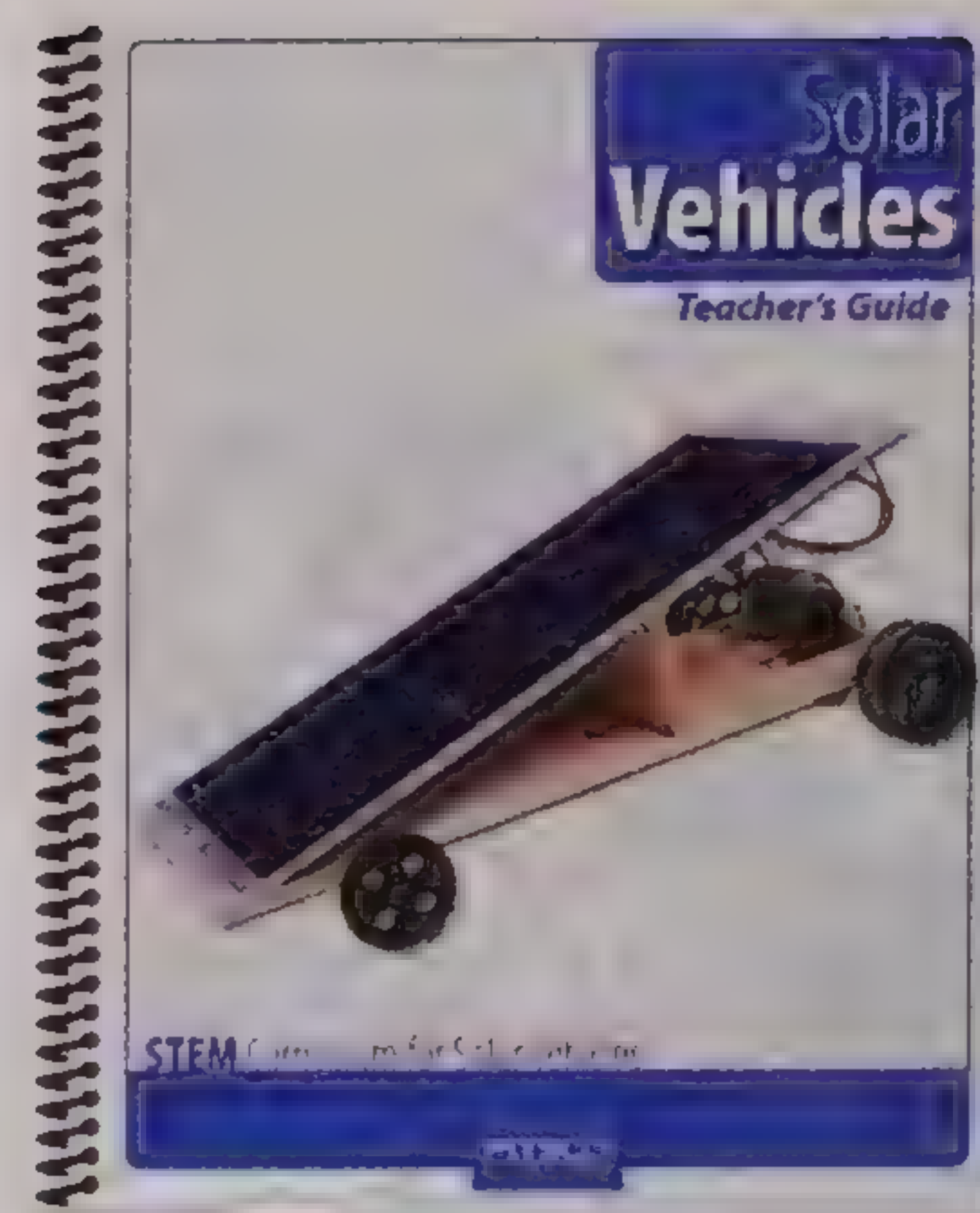
Grades 6+

Note: Six *Ray Catcher Panels* are included in the *Deluxe Pack*®.

PITSCO
EDUCATION

A
\$616.95
value!

Visit LEGOeducation.us/raycatcher



Solar Vehicles Teacher's Guide

Use the Sun to power cars and your students' minds! With this guide focusing on solar cars, cruise through activities delving into photovoltaics, energy and power, ratios, data graphing, and much more. Paperback/spiral-bound, 93 pages.

Grades 6+

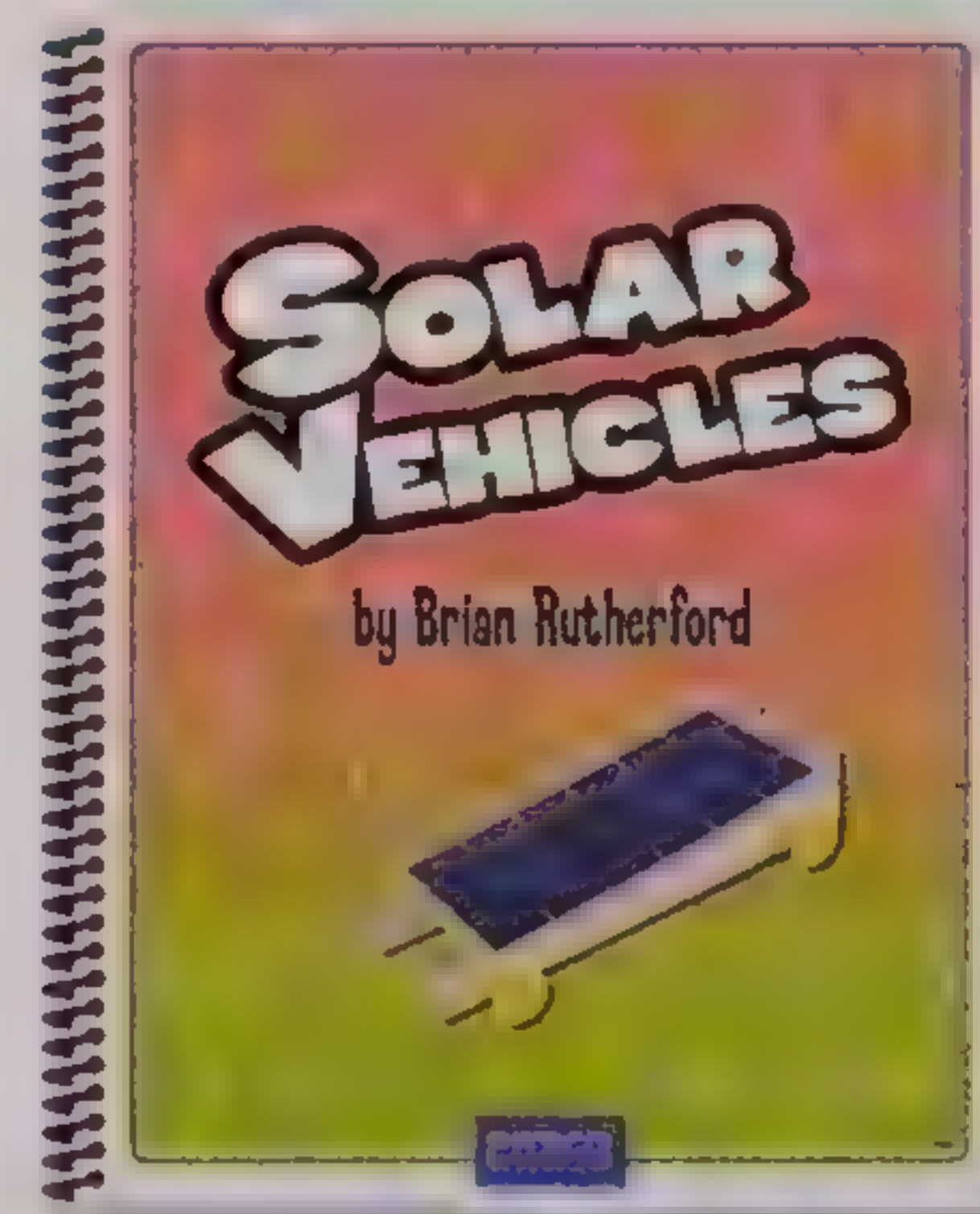
TM759464—\$24.95

Solar Vehicles

Students learn the pros and cons of solar energy, the methods of generating and storing solar power, and the mechanisms that power real-life solar vehicles – from pulleys and gears to batteries and sensing devices. Finally, students apply their knowledge to their own engineering challenge – design, build, and race a vehicle powered only by sunlight. Contains super tips on maximizing power, reducing friction, and evaluating the performance of the vehicle. Paperback/spiral-bound, 31 pages.

Grades 6+

TM757856—\$4.95



Ray Catcher Video

The *Ray Catcher Video* steps your students through the building of this superfast solar car, which is designed for the Junior Solar Sprint contest.

Along the way, students will learn applicable science concepts such as photovoltaics, gears, friction, and more. Closed-captioned. Time: 24 minutes.

Grades 6+

TM732914 DVD—\$24.95



Motor 280

A great little motor/generator for small electric vehicles or solar racers. This is the motor specified by the Junior Solar Sprint Competition! Operating voltage: 1.5-3VDC at 330 mA.

TM754428—\$1.75 each

10 or more—\$1.60 each

TM737502 (Motor 280 Mount)—\$1.50

NEW



Motor 385

A heavy-duty motor/generator with carbon brushes. It is an excellent choice for robotics design, model racing cars, R/C vehicles, or any other high-torque, low-power consumption applications. 6-24VDC, 1,300 mA. No-load speed 14,300 rpm, stall torque 7.71 oz-in.

TM750076—\$4.50 each

10 or more—\$4.05 each

TM737503 (Motor 385 Mount)—\$1.50

NEW



Motor 500

Use this motor/generator with our Pitsco plastic gears. Smooth-running motor with very low starting friction. Operating range: 1.5-6VDC, 150 mA.

TM750075—\$1.95 each

10 or more—\$1.75 each

TM737504 (Motor 500 Mount)—\$1.50

NEW



Ray Catcher Sprint Deluxe Solar

All the materials needed to build a complete solar car for the Junior Solar Sprint Competition! The kit contains the required solar panel and electric motor plus the needed balsa wood, wheels, gears, and hardware.

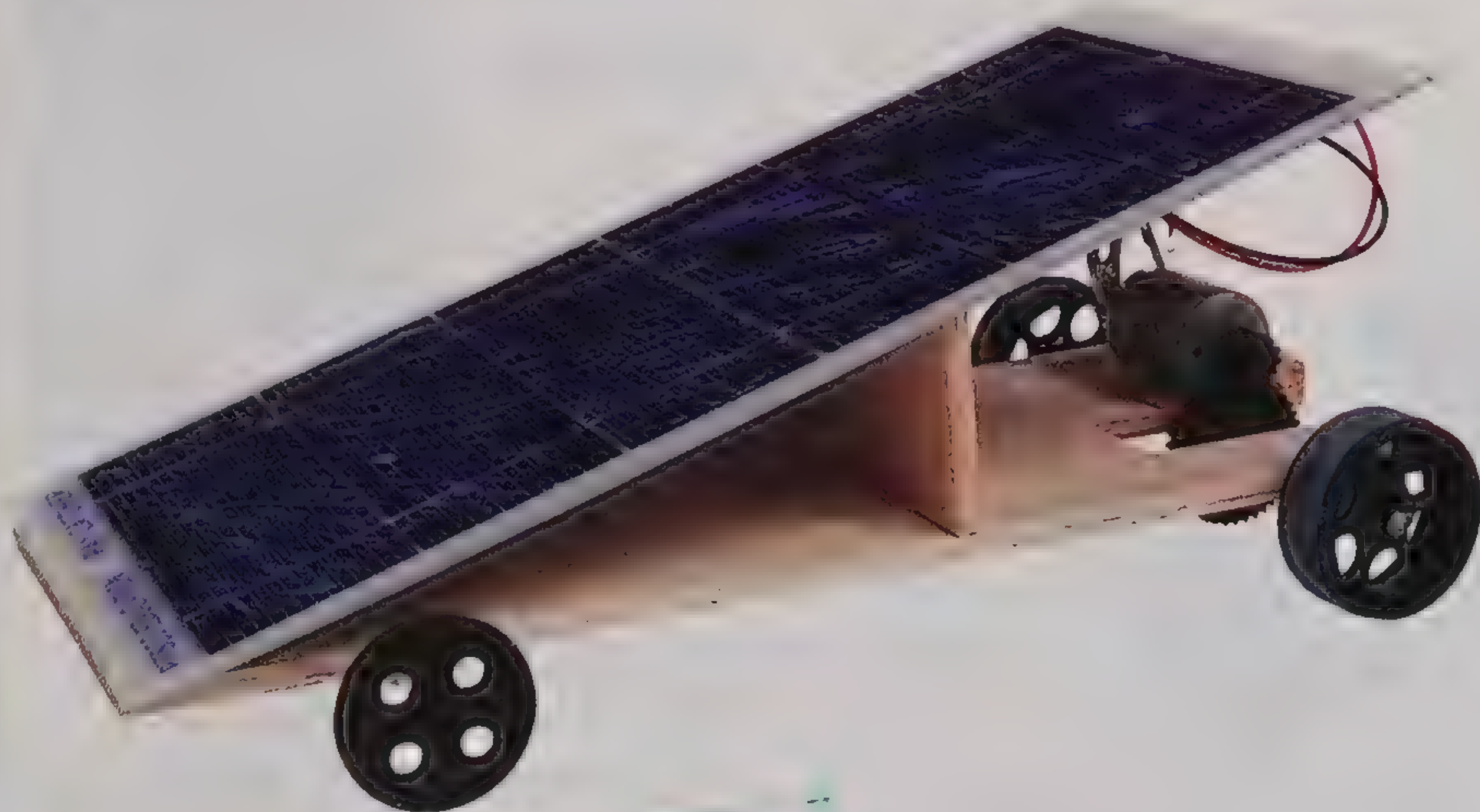
Packs include enough material to build 10 or 30 *Ray Catcher* vehicles.

Grades 6+

TM721211 Kit—\$49.95

TM735562 10-Pack—\$160

TM735561 30-Pack—\$450



Ray Catcher Sprint

NEW

Featuring the *Ray Catcher Solar Panel* (10.5" L x 5.0" W x 0.08" thick), this solar car kit contains all the official parts and meets the minimum specifications required by the Junior Solar Sprint competition. It includes the solar panel, the official electric motor, and a pair of small alligator clips for easy hookup. Chassis, wheels, and transmission are not included in this kit.

Grades 6+

TM721210—\$39.95

TM737942 Solar Panel Only—\$24

TM754665 Alligator Clips (pkg of 10)—\$7.30



Power House: Green Essential Edition

NEW

Help your class explore many energy and green-living concepts with a model that puts it into context for everyday living.

First, construct the *Power House*. Then, explore alternative energy and sustainable living as students carry out dozens of possible experiments and build energy models. They will discover green construction materials, passive solar design, the water cycle, photovoltaics, wind turbines, and more. This edition also features a green house!

Includes a 64-page color manual that details 30 experiments and 10 projects.

Grades 6+

TM737732—\$94.95



SunEzoon Cars – Getting Started Package

Featuring the easy-to-assemble *SunEzoon* solar car, this Getting Started package includes the *Dr. Zoon SunEzoon Video* and enough materials for students to build 30 solar cars.

The *SunEzoon Cars – GS Package* includes the following products:

- SunEzoon Solar Car 30-Pack
- Dr. Zoon SunEzoon Video (DVD)

TM735694 SunEzoon Cars – Getting Started Package—\$314
Grades 3+

A
\$323.95
value!

PITSCO
EDUCATION



Visit LEGOeducation.us/sunezoon.

SunEzoon Solar Car

The easy-to-build *SunEzoon Solar Car* works outdoors in full sunlight or indoors under a bright incandescent light. Each kit contains instructions, solar panel with alligator clamps, motor, wheels, steel axles, gear font, chassis parts, and a cut-and-fold cover.

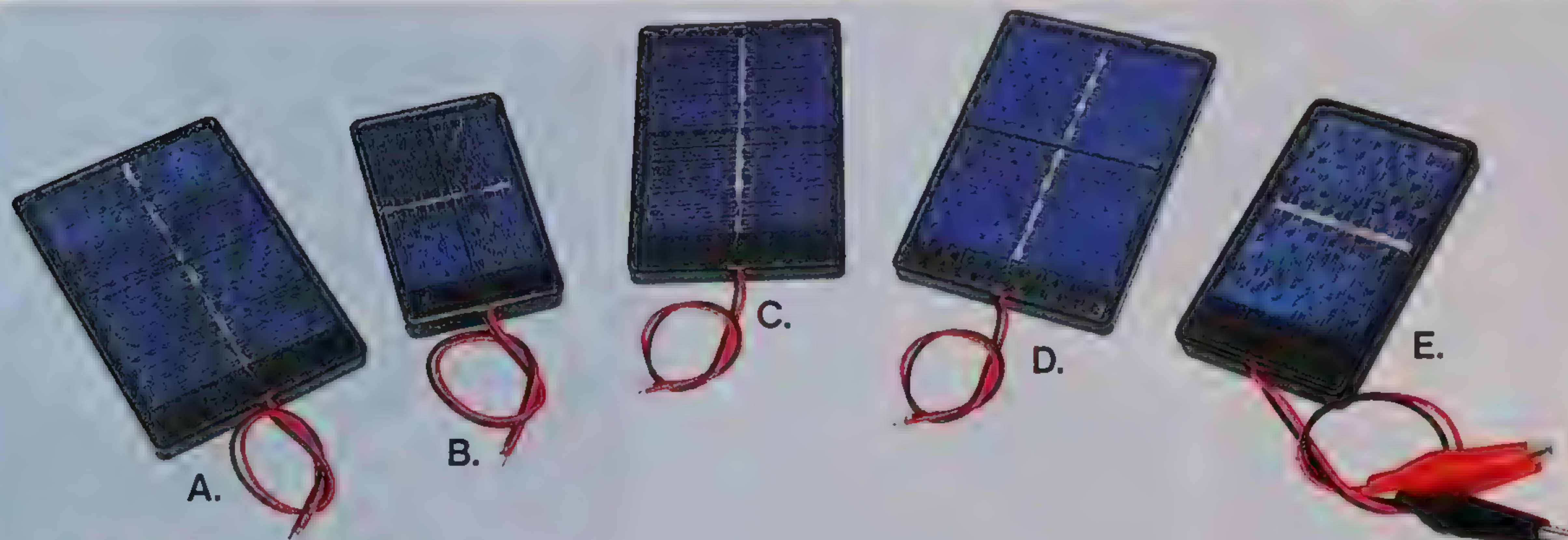
Packs include enough material to build 10 or 30 *SunEzoon Cars*.

Grades 3+

TM728574 Kit—\$12.95

TM735625 10-Pack—\$115

TM735624 30-Pack—\$299



Solar Mini Panel

Connect these solar panels to motors to make solar-powered vehicles and other projects. These solar cells are enclosed in plastic cases, so they are durable in your classroom. Panels A, C, and D are 2-5/8" x 3-3/4". Panels B and E are 1-3/4" x 3".

A. TM756871 (0.5V, 800 mA)—\$4.95

10 or more—\$4.45 each

B. TM756870 (1.0V, 200 mA)—\$2.95

10 or more—\$2.65 each

C. TM756851 (1.0V, 400 mA)—\$4.95

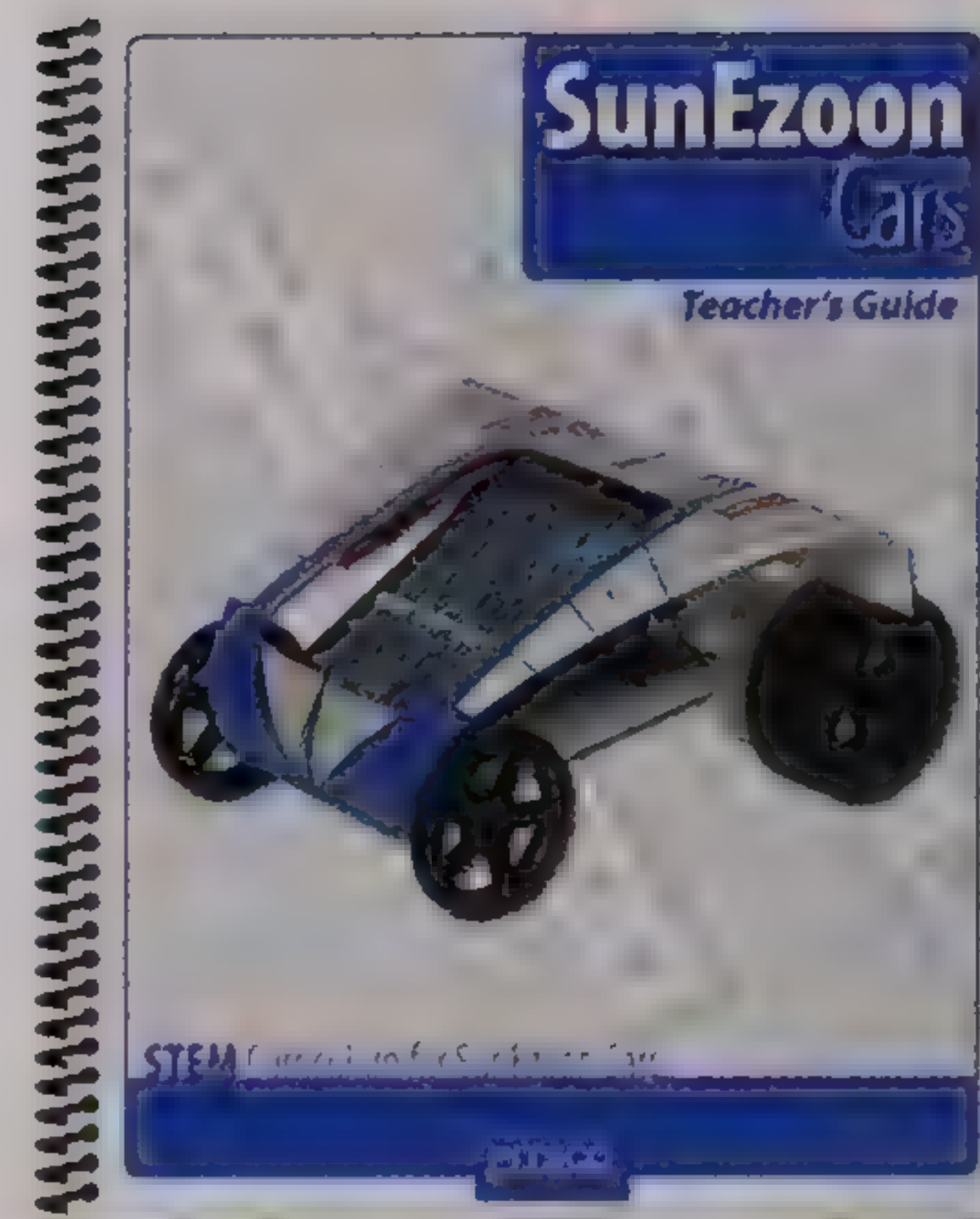
10 or more—\$4.45 each

D. TM756852 (2.0V, 200 mA)—\$4.95

10 or more—\$4.45 each

E. TM759043 with alligator clips

(.45V, 400 mA)—\$2.95



SunEzoon Cars Teacher's Guide

Pitsco's *SunEzoon Car* might be easy to build, but this guide exposes it as the perfect tool for learning various math, science, and engineering subjects. This comprehensive guide sheds light on drive and pinion gears, slope, coordinate graphing, speed, velocity, acceleration, and more. Paperback/spiral-bound, 121 pages.

Grades 6+

TM759465—\$24.95

Dr. Zoon SunEzoon Video

Work along with Dr. Zoon as he builds the *SunEzoon* solar car.

While demonstrating the step-by-step building instructions, he illuminates the scientific principles involved: photovoltaics, gears, energy, and alternative energy.

The *SunEzoon Car Kit* and the *Dr. Zoon SunEzoon Video* are the perfect combination for introducing students to the world of solar power. Closed-captioned. Time: 14 minutes.

Grades 3+

TM759751 DVD—\$24.95



SunZoon Lite - Getting Started Package

Try this low-calorie approach to solar energy! This package has enough materials for 30 students to build a *SunZoon Lite* solar car, plus it has the *SunZoon Lite Video*.

The *SunZoon Lite - GS Package* includes the following products:

- SunZoon Lite 30-Pack
- SunZoon Lite Video (DVD)

TM735635 SunZoon Lite - Getting Started Package—\$228
Grades 3+

A
\$249.95
value!

PITSCO
EDUCATION

Visit LEGOeducation.us/sunzoonlite.



SunZoon Lite

Bigger isn't always better – give this little solar car a bright, sunny day, and it can really move! The *SunZoon Lite* is a perfect kit for solar car beginners.

Use the basswood chassis as is or cut it in a desired shape; the chassis can be painted any color desired. Includes the chassis, solar panel, *Motor 280*, gear font, front and back wheels, spacer material, adhesive tabs, and a template. No soldering required.

Pack includes everything needed to build 10 or 30 *SunZoon Lite* solar cars.
Grades 3+

TM728576 Kit—\$8.95

TM735627 10-Pack—\$79.95

TM735626 30-Pack—\$225

Solar Designer Car

Students make a solar-powered car that will travel under bright sunlight using the supplied parts and instructions. Other project ideas are suggested. Kit contains the following: solar panel (.45V, 400 mA) 1-3/4" x 2-15/16", DC motor, plastic body tube, Pitsco plastic gear font, two axles, four Pitsco wheels, four 1/8" brass washers, and instruction guide.

Pack includes enough material to build 25 *Solar Designer Cars*.
Grades 6+

TM750073 Kit—\$11.95

10 or more—\$10.75 each

TM751417 Solar Designer 25-Pack—\$265



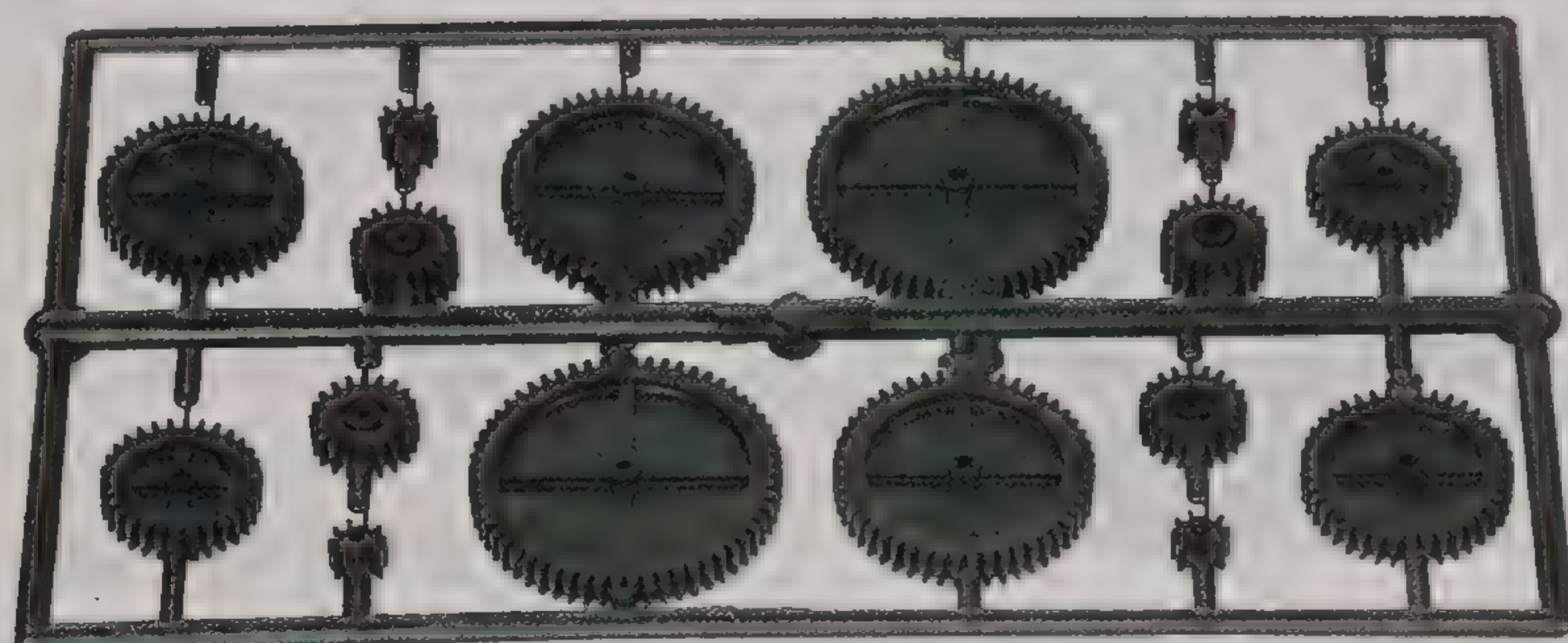
Gear Font

Get your motor running! These 16 plastic gears come in an easy punch-out frame and range in size from 1/2" to 2". Redesigned with accurate gear-tooth geometry for a smoother, more fluid fit, these gears can be used on most Pitsco products requiring a gear to turn a servo, wheel, or motor.

TM725300—\$5

10 or more—\$4.50 each

100 or more—\$4.25 each





Eco-Wind Gen - Getting Started Package

The need for alternative energies has never been more apparent than now. An affordable, hands-on way to teach wind energy concepts, this Getting Started package includes materials for 30 students to build model wind generators. Plus, it includes the *WinDynamo II* for classroom demonstrations and the *Eco-Wind Gen* video.

The *Eco-Wind Generator – GS Package* includes the following products:

- Eco-Wind Gen 30-Pack
- WinDynamo II
- Eco-Wind Gen Video (DVD)

**TM736309 Eco-Wind Gen –
Getting Started Package—\$499**
Grades 3+

PITSCO
EDUCATION

A
539.95
value!



Visit LEGOeducation.us/ecowindgen.

Switch On! Electronic Building Block Set

With this innovative set, children as young as eight can discover the basic principles of electronics. In the same way that children build towers with blocks, they can build functioning electrical circuits with *Switch On!*

From basic to intricate, more than 40 different circuits can be built with these color-coded components, which are large and easily manipulated by small hands. Includes battery box, electric motor, fire engine siren, flashing doorbell, diode, potentiometer, resistors, transistors, capacitors, and conductors! Includes step-by-step instructions and a base-building plate.

Grades 3+

TM756121—\$59.95

TM751046 AA Batteries (pkg of 2)—\$1.95



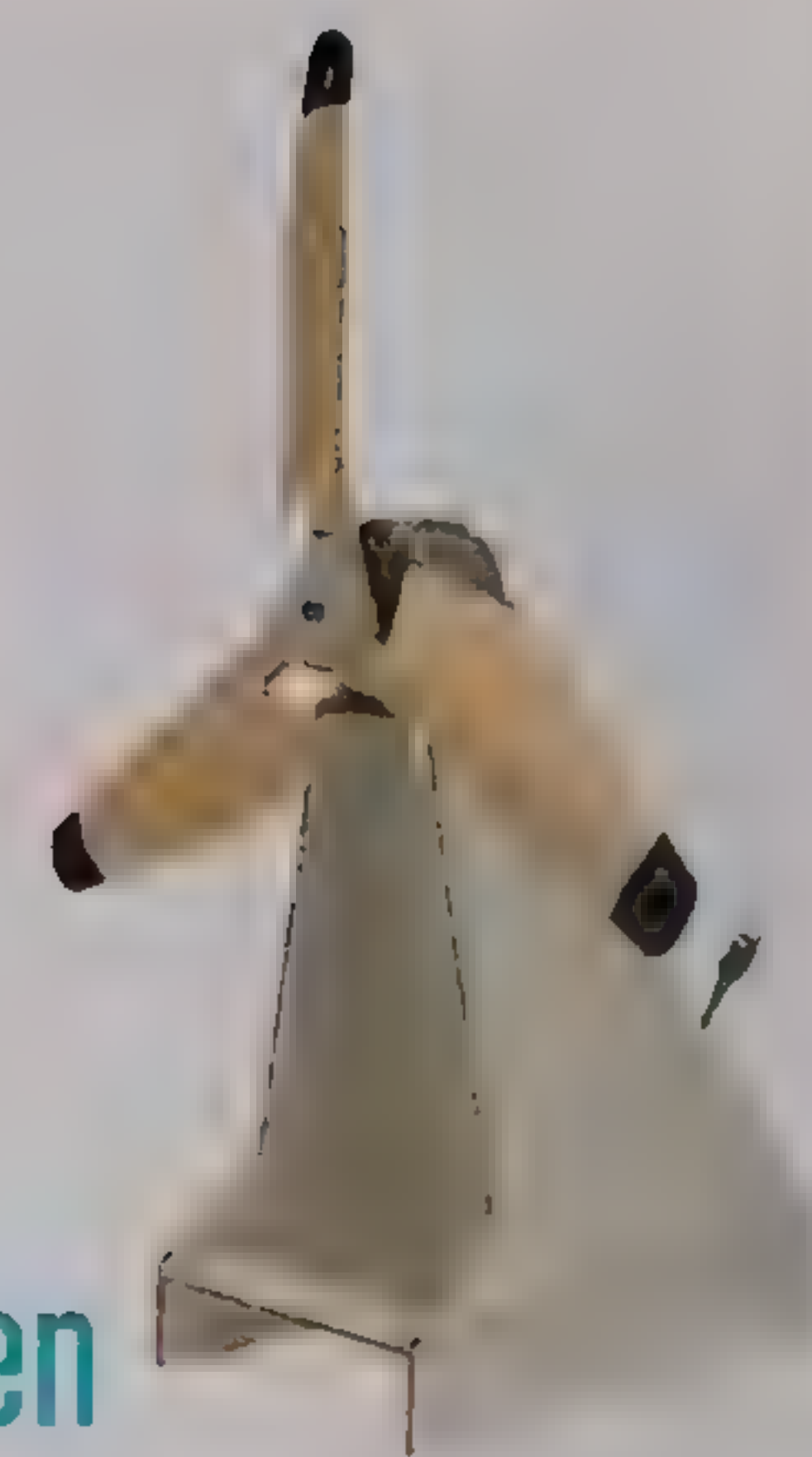
Electric Energy Prop Racer

This unique vehicle is part plane, part car – although it moves on wheels, it is battery powered and mobilized by a plane propeller. The kit includes CDs for wheels, CD hubs, balsa wood material for the body, a battery holder, and a propeller. Some assembly required. Requires two AA batteries, hobby knife, straightedge, soldering iron and solder, drill, glue, double-sided tape, small screwdriver, and transparent tape, sold separately.

Grades 3+

TM725784 Kit—\$12.95

TM725785 25-Pack—\$235



Eco-Wind Gen

Constructed of sturdy card-stock parts and easy to build, this wind generator is an economical choice if you want each student to see the power of the wind up close! Comes with die-cut parts and the *Motor 500* with wires and a lightbulb.

Packs include enough material to make 10 or 30 *Eco-Wind Generators*.

Grades 3+

TM735543 Kit—\$7.95

TM736307 10-Pack—\$74.95

TM736308 30-Pack—\$220

Eco-Wind Gen Video

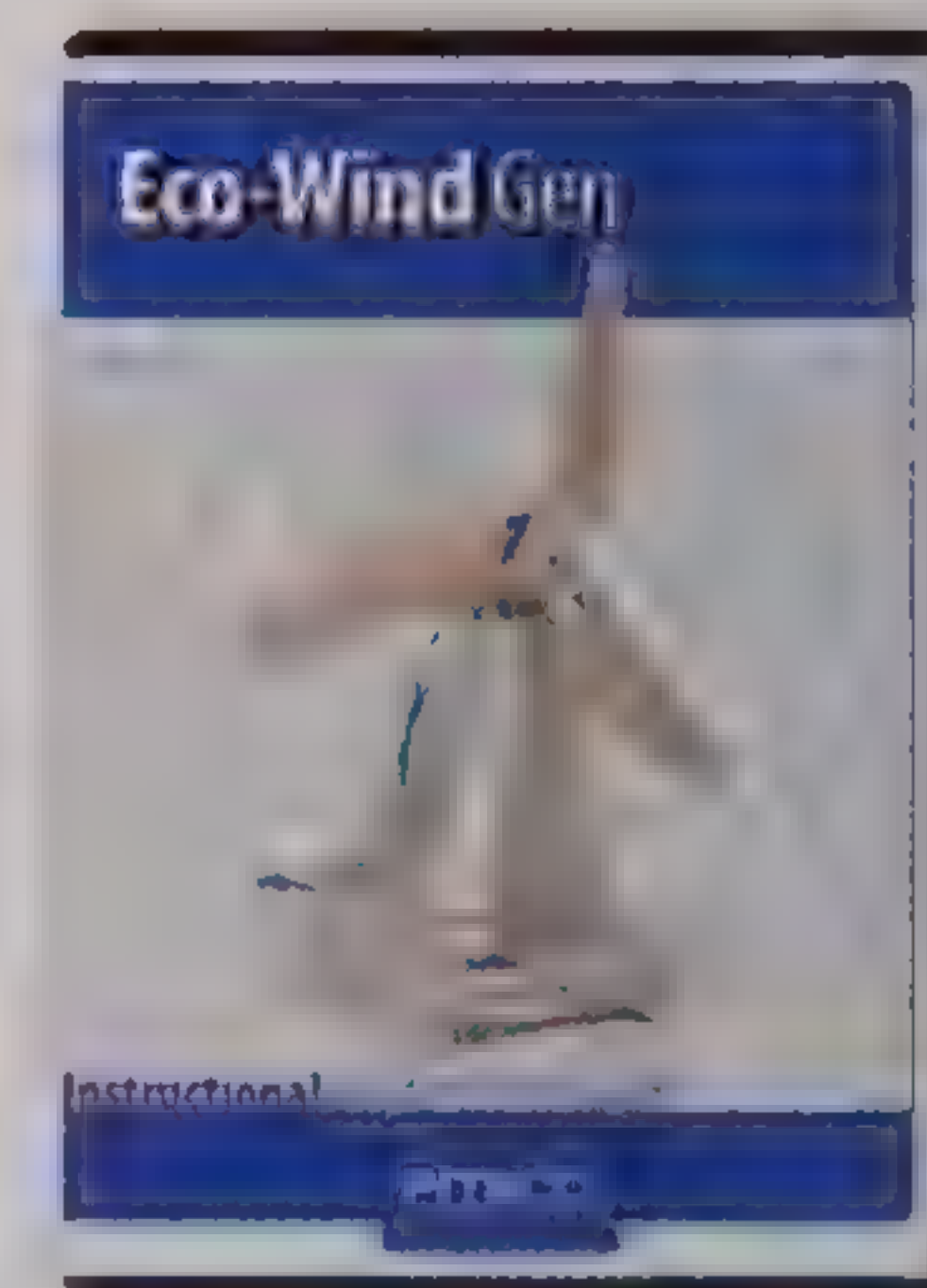
Wind energy comes to life for students with this video's insight to the science and technology of wind generators. See how to build a model wind generator and understand how the model – and a full-size wind generator – works.

This video leads students through the construction and operation of an *Eco-Wind Generator* and provides a scaling activity using the completed model; STEM connections; a Make the Connection section discussing wind energy, rotational energy, and how the generator creates electricity; and more. Closed-captioned.

Time: 25 minutes.

Grades 3+

TM759898 DVD—\$24.95



Wind Energy - Getting Started Package

The need for alternative energies has never been more apparent than right now! Get students thinking about energy concepts through this hands-on activity. The Getting Started package has enough materials for 25 student wind generators and has a *WinDynamo II* for teacher demonstrations or advanced student explorations.

The *Wind Energy - GS Package* includes the following products:

- Wind Gen 25-Pack
- WinDynamo II
- Wind Gen Video (DVD)

TM723616 Wind Energy - Getting Started Package—\$560
Grades 6+

PITSCO
EDUCATION

A
\$609.95
value!

Visit LEGOeducation.us/windgen.



Wind Gen

Wind energy has the potential to supply all the electricity needed in the United States. Introduce students to this renewable energy with the *Wind Gen Kit*.

With this kit, students quickly build a windmill that catches a breeze from a fan and converts it into energy. Students see this energy when it lights a bulb attached to the motor. Or, they can wire several mills together to power larger devices such as a radio or a small motor.

The *Wind Gen Kit* features a motor with a pre-soldered bulb and laser-cut parts that fit together for a clean and easy build. Requires white glue, glue stick, scissors, and a high-velocity fan, sold separately.

Grades 6+

TM732197 Kit—\$12.95

TM732470 25-Pack—\$290

WinDynamo II

Pitsco's wind turbine shows students how alternative energy is created by harnessing the wind produced by a 14" table fan. Experimenting with different blade pitches is a breeze with the front adjustment knob that moves all three blades simultaneously. The *WinDynamo II*, which can produce up to a half amp at 1.5 volts, features a stackable banana connector for adding a voltage meter.

This wind generator also comes with an activity board for demonstrating how to convert the electricity into light, sound, and mechanical energy. Some of the activities included with the *WinDynamo II* require the use of a multimeter, sold separately. Requires a screwdriver and a 14" table fan or real wind, not included.

Grades 6+

TM728400—\$295

TM728623 14" Table Fan—\$69.95



Wind Energy Teacher's Guide

Using the *WinDynamo II* with the *Eco-Wind Generator Kit* or the *Wind Gen Kit*, this guide provides a close-up look at wind energy. It details hands-on activities to teach students how to measure wind speed, calculate rpm, determine optimum pitch angles, create a wind farm producing a specified voltage, and more. Paperback/ spiral-bound, 99 pages.

Grades 6+

TM732942—\$24.95

Wind Gen Video

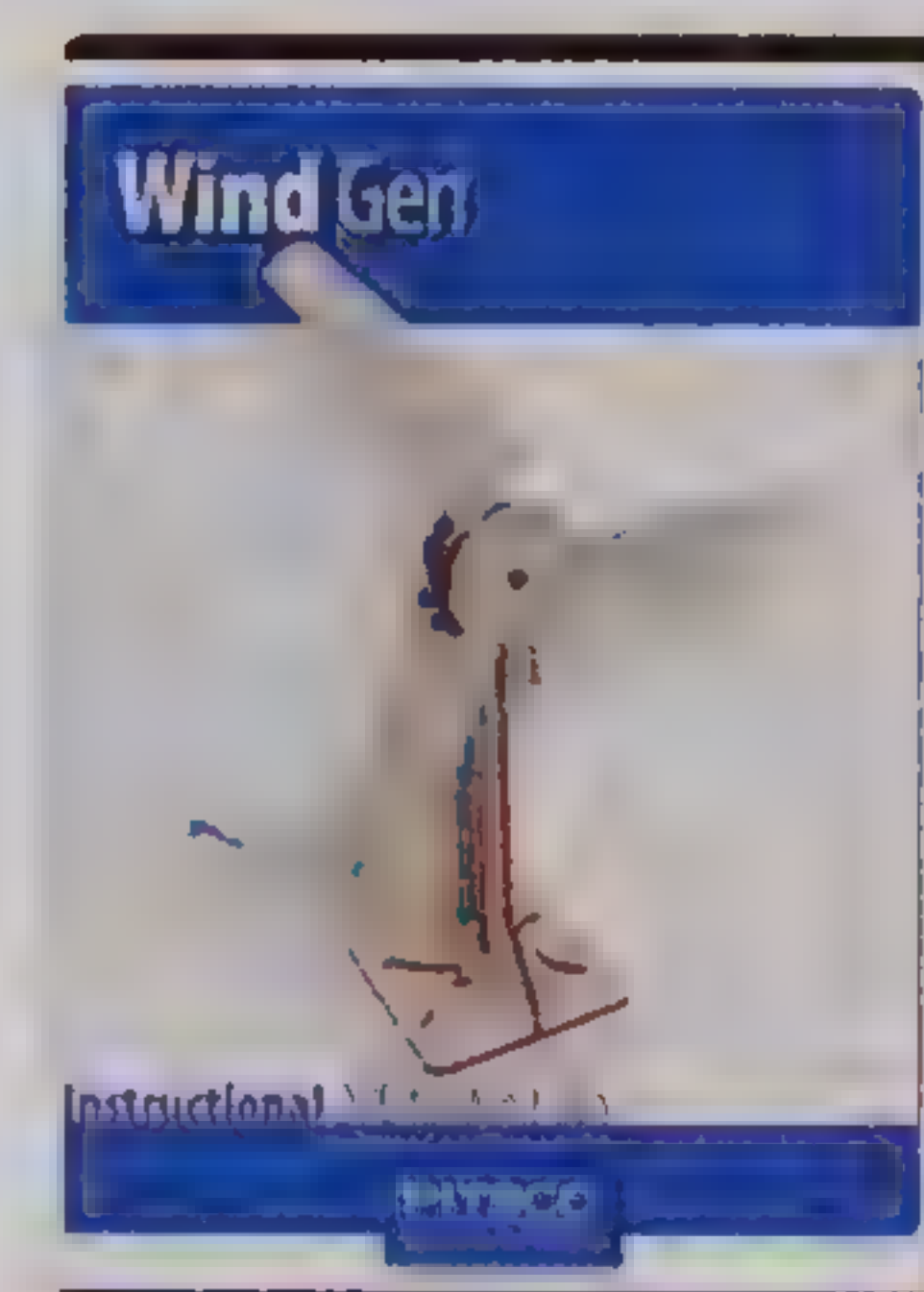
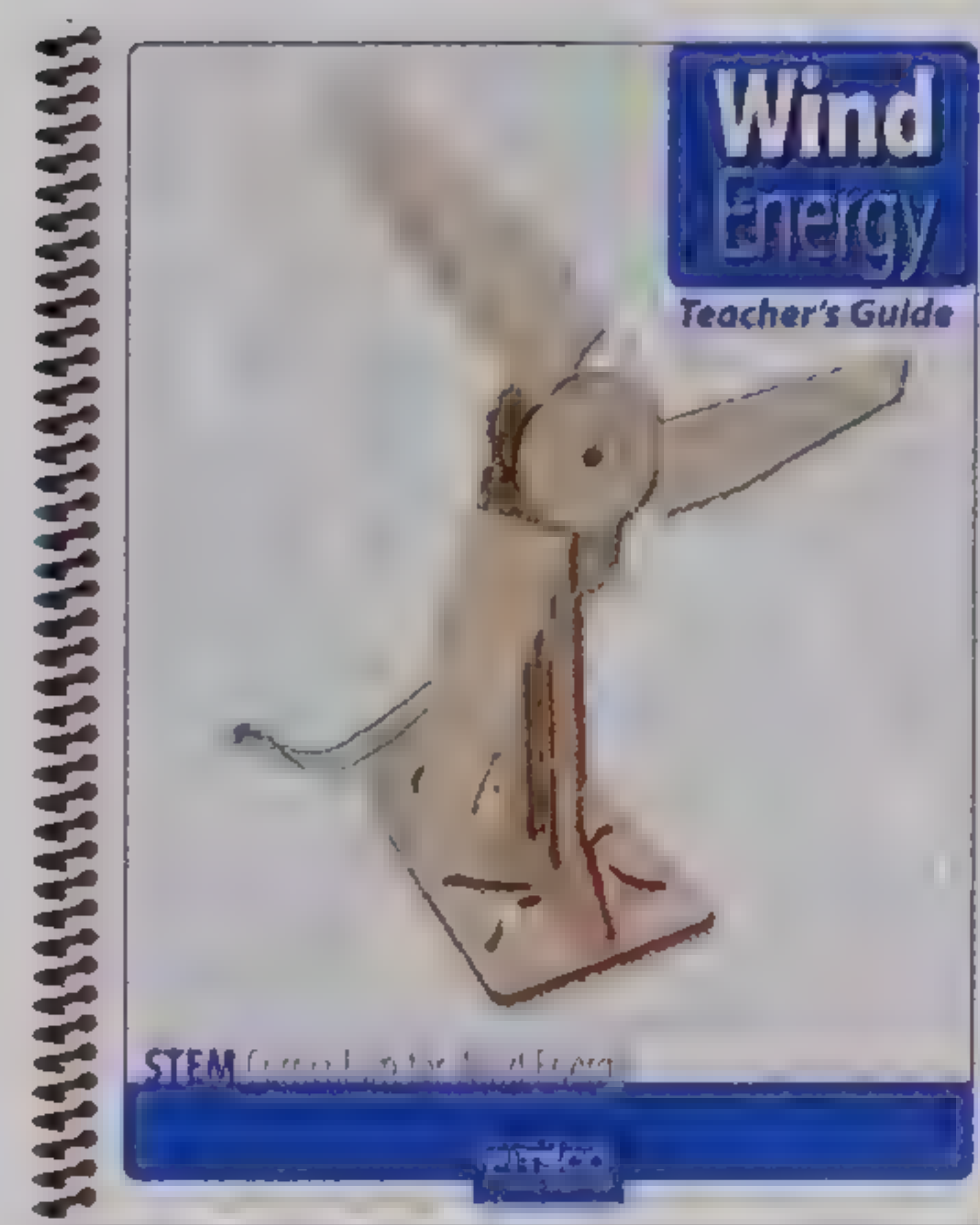
Putting together the *Wind Gen Kit* is a breeze when you have this video guiding the way.

Just follow these clear steps to build our laser-cut wind generator kit, and your students will be experimenting in no time! And along the way, they learn about the importance of wind energy and its amazing potential. Closed-captioned.

Time: 12 minutes.

Grades 6+

TM732913 DVD—\$24.95



Maglev Vehicles - Getting Started Package

Everyone in the class has a shot at levitation with our *Maglev Vehicles – GS Package*. The pack has enough materials for 30 students to build *Levigator* maglev vehicles, including 30 car templates, 30 precut card-stock bases, 100 ceramic magnets, a *Maglev Track*, and a *Dr. Zoon Maglev Video*.

The *Maglev Vehicles – GS Package* includes the following products:

- Levigator Maglev 30-Pack
- Maglev Track
- Dr. Zoon Maglev Video (DVD)

TM735621 Maglev Vehicles – Getting Started Package—\$215
Grades 3+

A
\$239.95
value!

PITSCO
EDUCATION



Visit LEGOeducation.us/levigator.



Levigator

A magnetic levitation vehicle uses a strong electromagnetic field to resist gravity and to keep the vehicle floating without touching the ground. With this kit, students build their own vehicle and race down the *Maglev Track*. Each kit contains two patriotic red, white, and blue cutout car designs, as well as four ceramic magnets and a tough, precut card-stock base. Requires double-stick tape and scissors, sold separately.

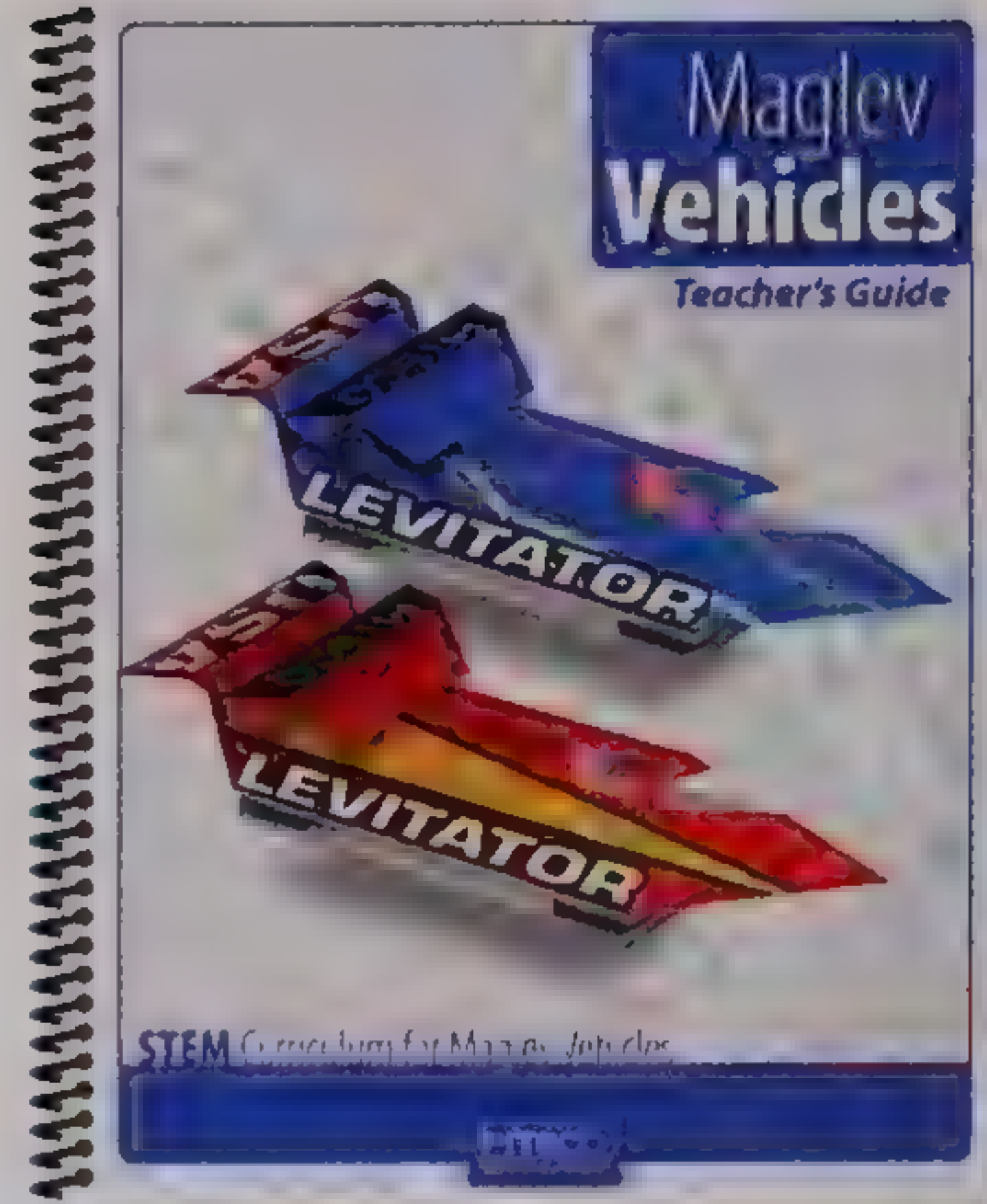
Packs include enough materials to build 10 or 30 *Levigator* kits.

Grades 3+

TM726223 Kit—\$3.95

TM735631 10-Pack—\$21.95

TM735632 30-Pack—\$55



Maglev Vehicles Teacher's Guide

Students will find this guide's activities attractive – even when they discover just how repulsive they are! Using the repulsive force of like magnetic poles, maglev vehicles are an amazing mode of transportation that encourages understanding of magnetic repulsion, friction, propulsion systems, equations, analyzing and graphing data, and more. Paperback/spiral-bound, 97 pages.

Grades 6+

TM759613—\$24.95

Dr. Zoon Maglev Video

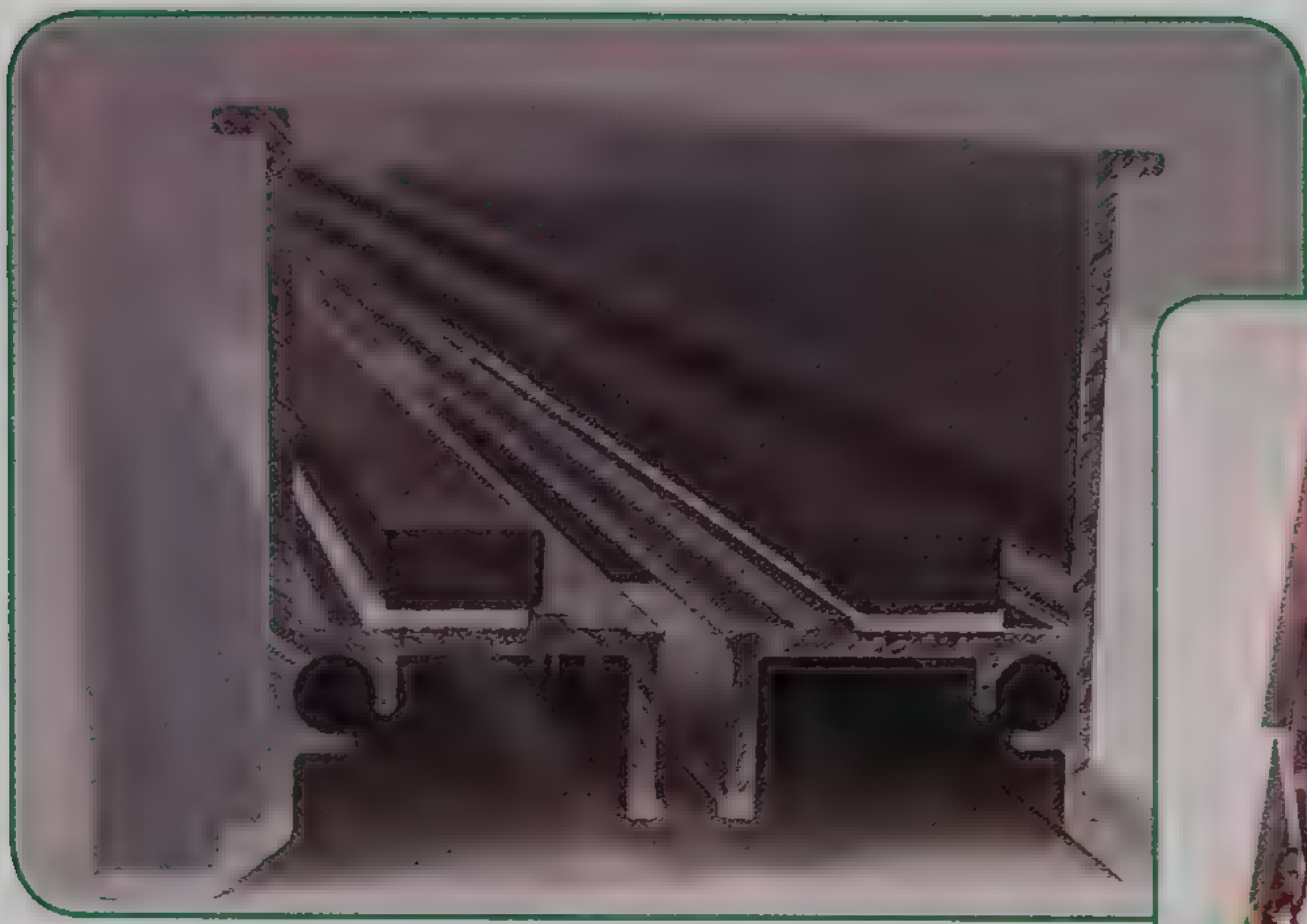
With magnetic levitation, objects can be levitated, or held floating in midair, by the force of magnetism. In this video, Dr. Zoon illustrates some of the scientific principles behind magnetic levitation, and he goes step-by-step through the process of building and testing a maglev vehicle. Closed-captioned.

Time: 15 minutes.

Grades 3+

TM759748 DVD—\$24.95





Maglev Track

NEW

Pitsco's redesigned *Maglev Track* gives you two options: regular or electrifying!

The track still offers magnetic levitation that can be powered by gravity or a battery-operated maglev vehicle. Now it also enables you to apply an electric current to the track to power a vehicle – just like a real maglev train.

Just attach a positive lead to one side of the track and a negative lead to the other and turn on DC power and away your maglev vehicle goes. This also gives you control of the vehicle's speed by adjusting the power level.

Constructed of sturdy aluminum, the track sections combine to create an 8' track. Requires some assembly. Electrifying the track requires a DC power source and positive and negative leads, sold separately.

Grades 3+

TM737516—\$160



NEW

MagLev E Vehicle Kit

This fun maglev vehicle zips down the track powered by the DC power supply that runs its propeller. Easy to build, the vehicle demonstrates the way electrically charged maglev trains work.

No soldering required. Includes magnets, chassis plates, motor with propeller and leads, and adhesive tabs.

Grades 3+

TM737682—\$5.95



4' Section For Maglev Track

NEW

To create an extra-long track, add these 4' sections onto the *Maglev Track*. Constructed of sturdy aluminum; some assembly required.

Grades 3+

TM737790—\$89

MagLev E Track Power Supply

These leads and power supply are ideal choices to power the *Maglev E Track*. The digital DC power supply features adjustable output voltage ranging from 0 to 18V with an output current of 0 to 3 A. The display is backlit for easy reading. The positive and negative leads are 36" long and have alligator clip ends for ease of use.

Grades 3+

TM737797—\$135



Straw Rockets - Getting Started Package



Building and experimenting with these simple rockets is the perfect way to introduce students to rocketry and several physics principles. Enough materials for 30 students to build four rockets each. The *Straw Rocket Launcher* and the *Straw Rocket* video are included.

The *Straw Rockets – GS Package* includes the following products:

- Straw Rocket Class Pack
- Straw Rocket Launcher
- Dr. Zoon Straw Rocket Video (DVD)

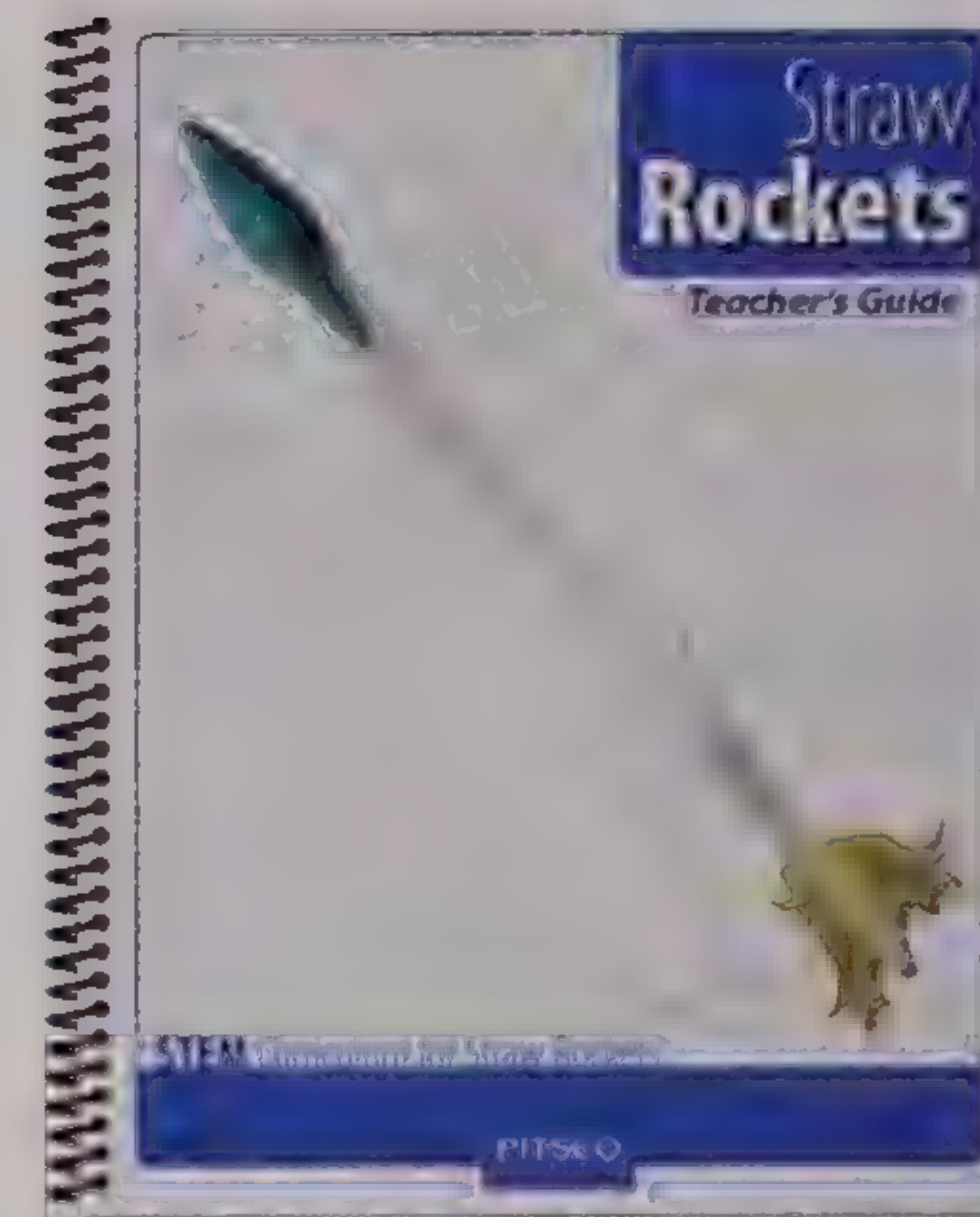
**TM735783 Straw Rockets –
Getting Started Package—\$199**
Grades K+

PITSCO
EDUCATION

A
\$213.90
value!



Visit LEGOeducation.us/strawrocket.



Straw Rockets Teacher's Guide

Straw rockets might be an introductory rocket activity, but this guide will help you get a lot of educational mileage out of them! With these fun activities, students grasp a variety of subjects including force and motion, thrust, center of gravity, prediction, measurements, and tons more. Paperback/spiral-bound, 90 pages.

Grades K+

TM759459—\$24.95

Straw Rocket Launcher

The *Straw Rocket Launcher* uses pneumatic force created by releasing a weighted drop rod in the cylinder to launch rockets. The force of the launch can be controlled by varying the release height of the rod. The launcher features simple operation, adjustable trajectory angle with angle gauge, clear tube that displays internal parts, and adjustable launch force. Recommended for use in a large, open indoor area such as a gymnasium.

Grades K+

TM720426—\$169



Straw Rocket Video

Whether you want to show students how to design and launch rockets or see how to maintain the *Straw Rocket Launcher*, this video covers it all! Includes:

- Rocket design and construction with reminders to consider variables such as rocket length, fin shape, and nose cone size
- Launching your rocket
- Maintaining the launcher
- Activity testing the trajectory angle's effect on the rocket's flight
- Newtons laws of motion and how they apply to the activity
- STEM concepts used in the activity Closed-captioned. Time: 31 minutes.

Grades K+

TM759993 DVD—\$24.95

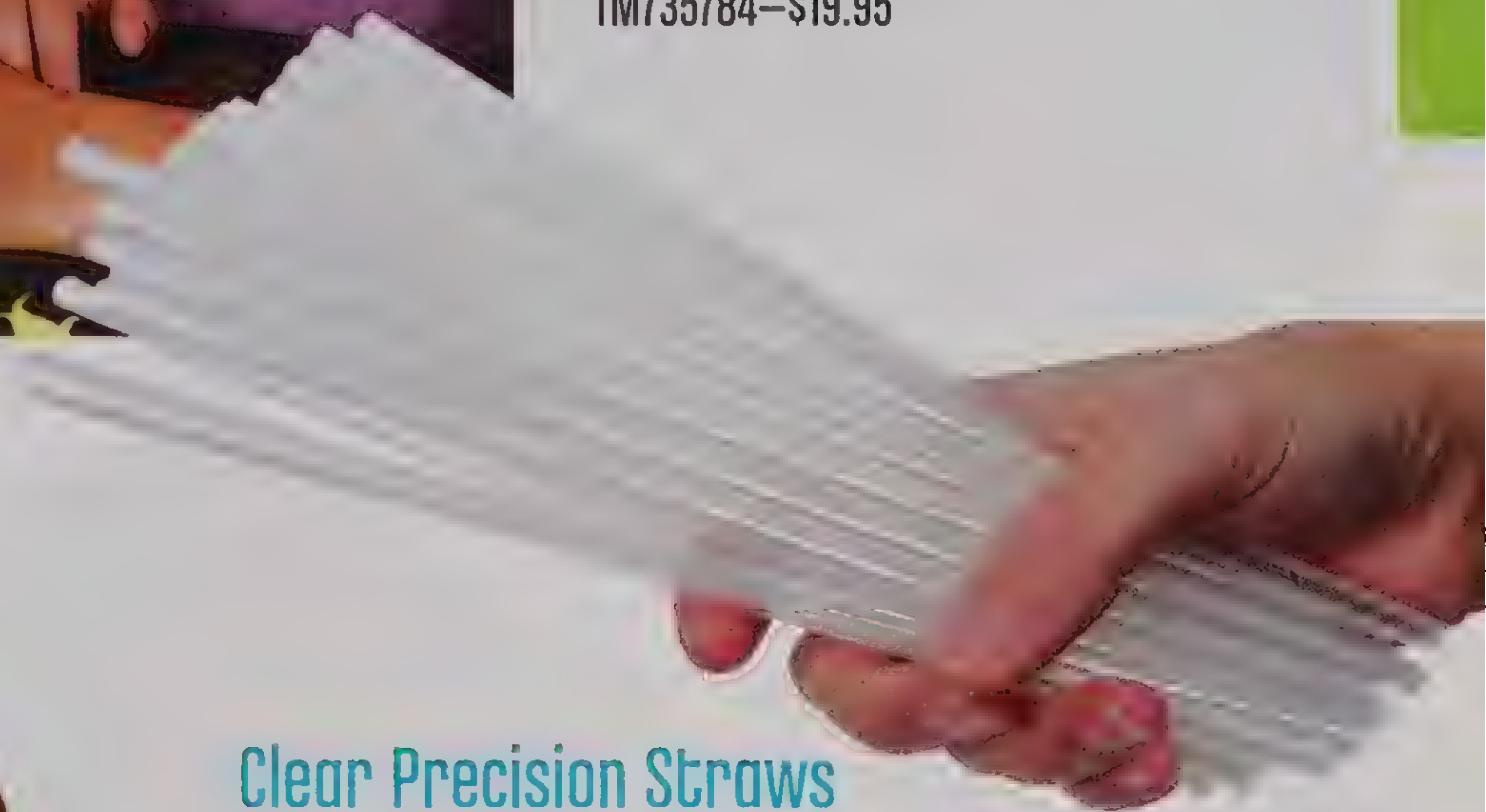




Straw Rocket Class Pack

The *Straw Rocket Class Pack* helps teach projectile motion, center of gravity, initial velocity, introductory aerodynamics, and more. This pack includes enough *Precision Straws*, clay, and fin material for 30 students to make four rockets each, which enables them to experiment with different weights, straw lengths, and fin designs. *Grades K+*

TM735784—\$19.95



Clear Precision Straws

These precision straws are manufactured to fit perfectly on the Pitsco *Straw Rocket Launcher*! Made from Mylar, these straws are durable, can be glued, and best of all, launch every time!

TM735782 (pkg of 120)—\$12.50



Variety Pack Precision Straws

Manufactured to fit perfectly on the Pitsco *Straw Rocket Launcher*, *Precision Straws* are used to make straw rockets that will launch every time! They are made from Mylar for durability and can also be glued. *Precision Straws* are available in several colors – choose from clear, red, blue, green, or an assortment.

TM735781 (pkg of 120)—\$12.50



Modeling Clay

NEW

Makes great projectiles and straw rocket nose cones.

TM737660—\$3.50

10 or more—\$3.25 each

Hot-Air Balloons - Getting Started Package

This Getting Started package has everything needed to get your class started in hot-air balloons, including materials for 30 students to each build their own hot-air balloons, launching equipment, and the *Hot-Air Balloon Video*.

The *Hot-Air Balloons – GS Package* includes the following products:

- Zoon Balloon 30-Pack
- Inflation Station Launcher
- Adventures in Lighter-Than-Air Flight Book
- Hot-Air Balloon Video (DVD)

A
\$527.95
value!

TM735566 Hot-Air Balloons – Getting Started Package—\$470

Grades 6+

PITSCO
EDUCATION



Visit LEGOeducation.us/inflationstation.

Inflation Station Hot-Air Balloon Launcher

This hot-air balloon launcher was designed for the safest and easiest launch possible. It features a cool-to-the-touch chimney and a grill to block access to the flame. The inflation guides make it a breeze to hold the balloon in place while filling.

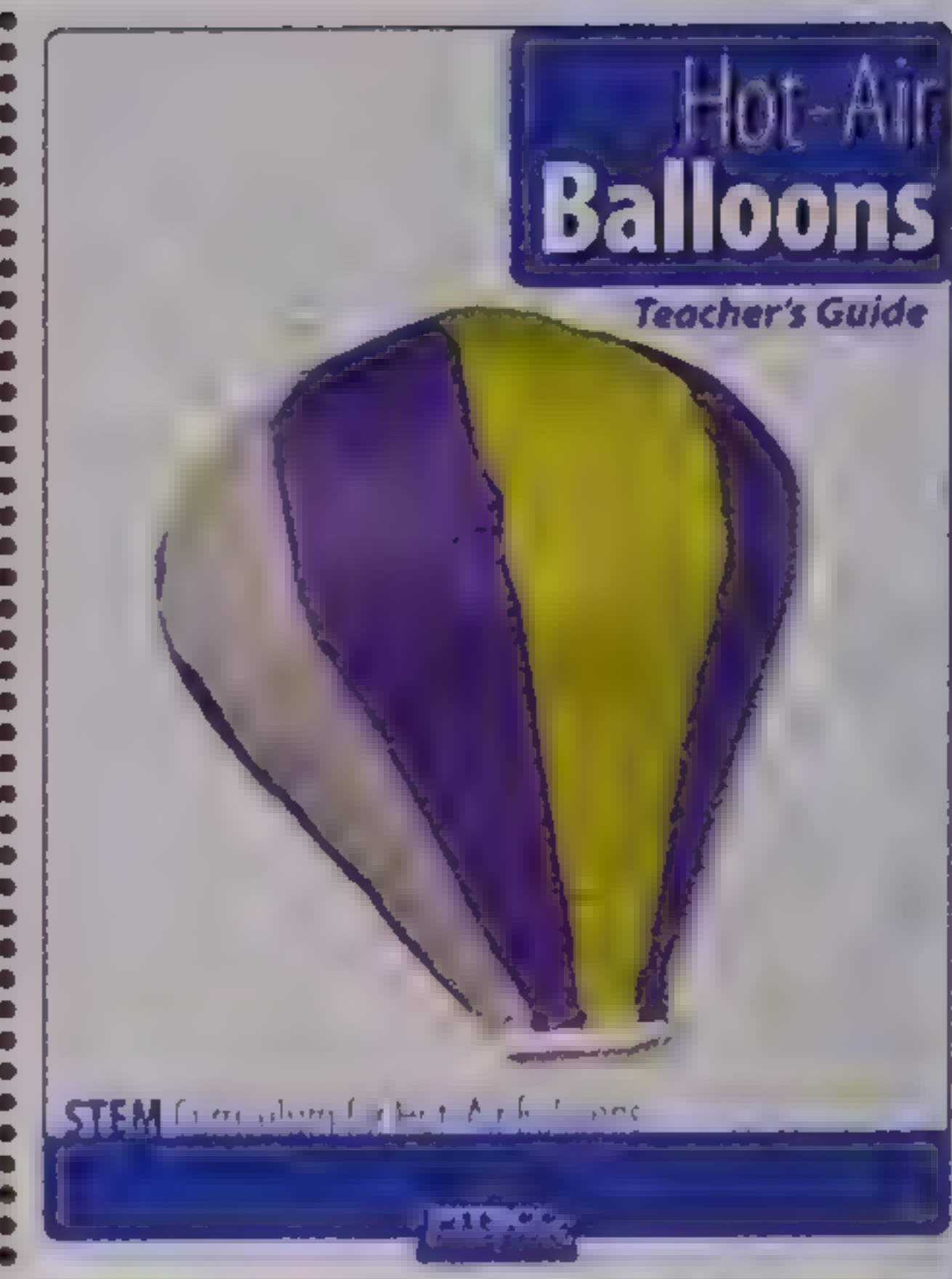
The *Inflation Station* launches balloons ranging in size from two to nine feet. Also includes propane cylinder base, attached torch kit and self-igniter, *Adventures in Lighter-Than-Air Flight* book, and instructions.

TM736094—\$399

Propane Cylinder For Balloon Launcher

TM752100 (approximately 8" tall, 16.4 oz)—\$5.50

This item is deemed hazardous by the Department of Transportation; therefore, a flat fee of \$30 will be added for ground delivery. Shipping by air is prohibited. The hazardous fee will be in addition to the regular shipping charges.



Hot-Air Balloons Teacher's Guide

Give your classroom curriculum a lift with the *Hot-Air Balloons Teacher's Guide*. Students learn to calculate surface area and volume; to analyze flights; and to discover how lift, drag, buoyancy, and temperature affect hot-air balloon flight. Paperback/spiral-bound, 94 pages.

Grades 6+

TM759614—\$24.95

Hot-Air Balloon Video



Hot-air balloons make great physics experiments – and now it's easier than ever to succeed with this activity! This video leads students through the process of cutting and gluing the gores to construct their own *Zoon Balloon*. Then, they learn to inspect their balloons and keep them in top shape for launch. Following this, students do a test launch with an indoor launcher, followed by the outdoor launch with a propane launcher.

The program also provides activities for analyzing balloon flight, understanding the physics of hot-air balloons, and varying balloon volume. Closed-captioned. Grades 6+

TM759897 DVD—\$24.95



Zoon Balloon Class Pack II

Introduce students to the principles of lighter-than-air flight as well as to the concepts of temperature, density, and buoyancy with the *Hot-Air Balloon Kit*. Each kit provides everything needed to make a hot-air balloon two foot in diameter. Includes instructions, balloon construction paper, a glue stick, and a balloon gore pattern.

Packs include enough materials for 10 or 30 students to each make their own hot-air balloon.

Grades 6+

TM729609 Kit—\$6.95

TM735565 10-Pack—\$36.95

TM735564 30-Pack—\$99



Adventures in Lighter-Than-Air Flight

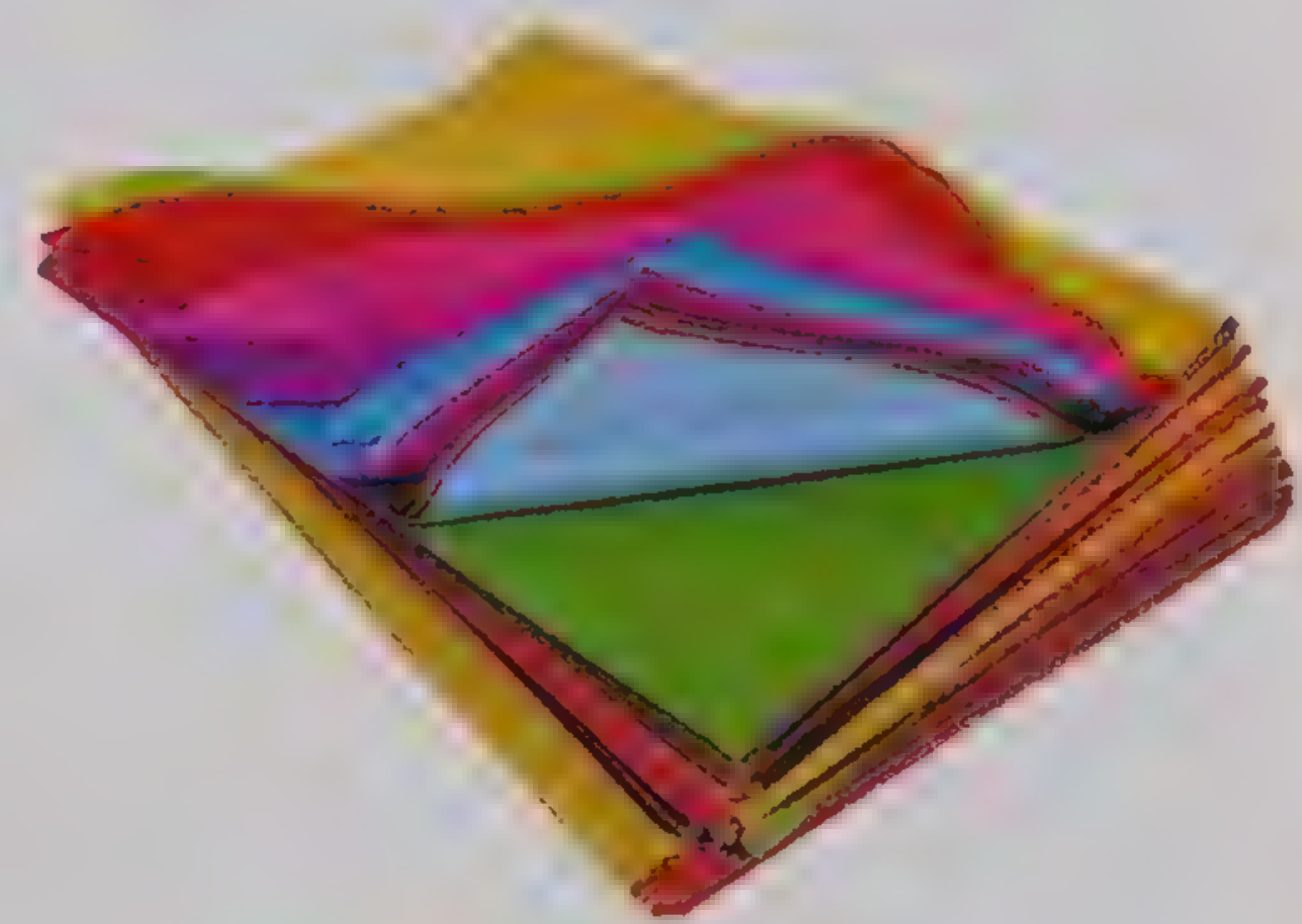
A colorful and carefully researched journey through the history and science of lighter-than-air flight.

Students learn about Archimedes' principle, the density and lift of gases, atmospheric pressure, gravity, why air is called a fluid, how airships and balloons fly, and more. Includes science activities, classroom discussion questions, and instructions for building six-foot and nine-foot tissue paper hot-air balloons. Paperback, 15 pages.

Grades 6+

TM757744—\$4.95

10 or more—\$4.45 each



Tissue Paper

Balloon and kite construction paper in assorted colors.

TM751934 (100 sheets)—\$12.95

TM753749 (480 sheets)—\$59



Glue Stic

TM751913—\$1

10 or more—\$.90 each

100 or more—\$.85 each

Indoor Balloon Tester

Before the big launch outside, wouldn't it be nice to test student balloons in the confines of your school?

This innovative launcher will test-fly hot-air balloons indoors safely and effectively. Because the unit runs on electricity, you don't have to worry about fumes. **Note:** For outdoor launches, we recommend the Pitsco Inflation Station Launcher.

TM713263—\$99





KaZoon Kites - Getting Started Package

"Project on a string" usually indicates an inexpensive activity, and this is no exception. This package includes materials for 30 tetrahedron kites and the *Dr. Zoon KaZoon Kite Video*.

The *KaZoon Kites - GS Package* includes the following products:

- KaZoon Kite 30-Pack
- Dr. Zoon KaZoon Kite Video (DVD)

TM723613 KaZoon Kites - Getting Started Package—\$99
Grades 3+

A
\$113.95
value!

PITSCO
EDUCATION

Visit LEGOeducation.us/kites.



KaZoon Kite Kit

Go fly a kite and discover the principles of flying in the same way the pioneers of flight did. You will learn about flight while assembling a flying machine that soars so easily you may have trouble getting it down! This kit comes complete with step-by-step instructions and everything else you need except wind!

Grades 3+

TM756772 Kit—\$6.95

TM723626 30-Pack—\$89



Building Kites

This great activity book integrates mathematics into kite building. These fun, challenging, hands-on kite projects provide opportunities for students to:

- Follow and solve problems.
- Express their creativity while planning and building usable models.
- Apply math as they enlarge patterns, determine measurements, look for relationships, and estimate the altitude of their kites.

Paperback, 65 pages.

Grades 6+

TM753173—\$29



KaZoon Kites Teacher's Guide

You don't have to play with lightning to learn from kites! This guide shows how to construct a tetrahedron kite and use it to demonstrate many important principles: lift, area and volume, density, forming and testing a hypothesis, tetrahedral and polyhedral design, and more. Paperback/spiral-bound, 96 pages.
Grades 6+

TM759461—\$24.95

Dr. Zoon KaZoon Kite Video

Watch as Dr. Zoon builds a tetrahedron kite using items

contained in the *KaZoon Kite* kit, sold separately. By following step-by-step instructions, students learn how to construct kites for maximum success aloft and are exposed to math and science principles in the process. Closed-captioned. Time: 38 minutes.

Grades 3+

TM759747 DVD—\$24.95



Kite Twine

Polyester/cotton, roll of 300 feet.

TM751912—\$2

Model Airplanes - Getting Started Package

Introduce aviation with rubber band-powered paper planes and watch class interest soar! This Getting Started package includes materials for 35 students to build and fly their own *Delta Dart*. Comes with the *Dr. Zoon Delta Dart Video*.

The *Model Airplanes - GS Package* includes the following products:

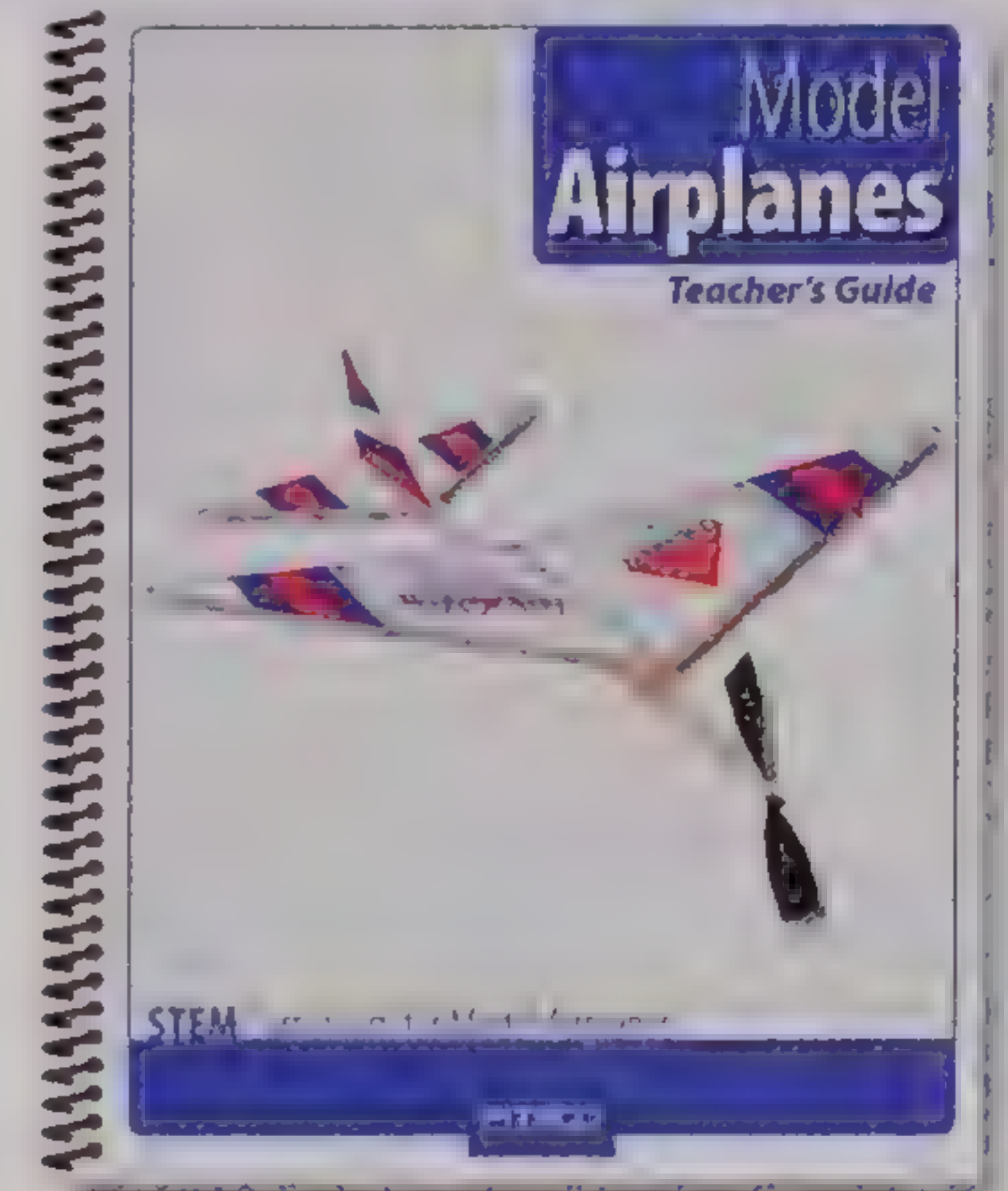
- Delta Dart Model Airplane Kit 35-Pack
- Insta-Cure+ Glue (5 one-ounce bottles included)
- Indoor Rubber Band Motor Winder
- Dr. Zoon Delta Dart Video (DVD)

TM723658 Model Airplanes - Getting Started Package—\$120
Grades 6+

A
\$183.70
value!

PITSCO
EDUCATION

Visit LEGOeducation.us/airplanes.



Model Airplanes Teacher's Guide

Need an angle of attack to teach students science and technology concepts? Have them build the *Delta Dart* model airplanes powered by rubber bands. Then, this guide's activities help them understand forms of energy, aerodynamic forces, initial velocity, how to design to achieve specific kinds of performance, and more. Paperback/spiral-bound, 109 pages.

Grades 6+

TM759729—\$24.95

Delta Dart Model Airplane Kit

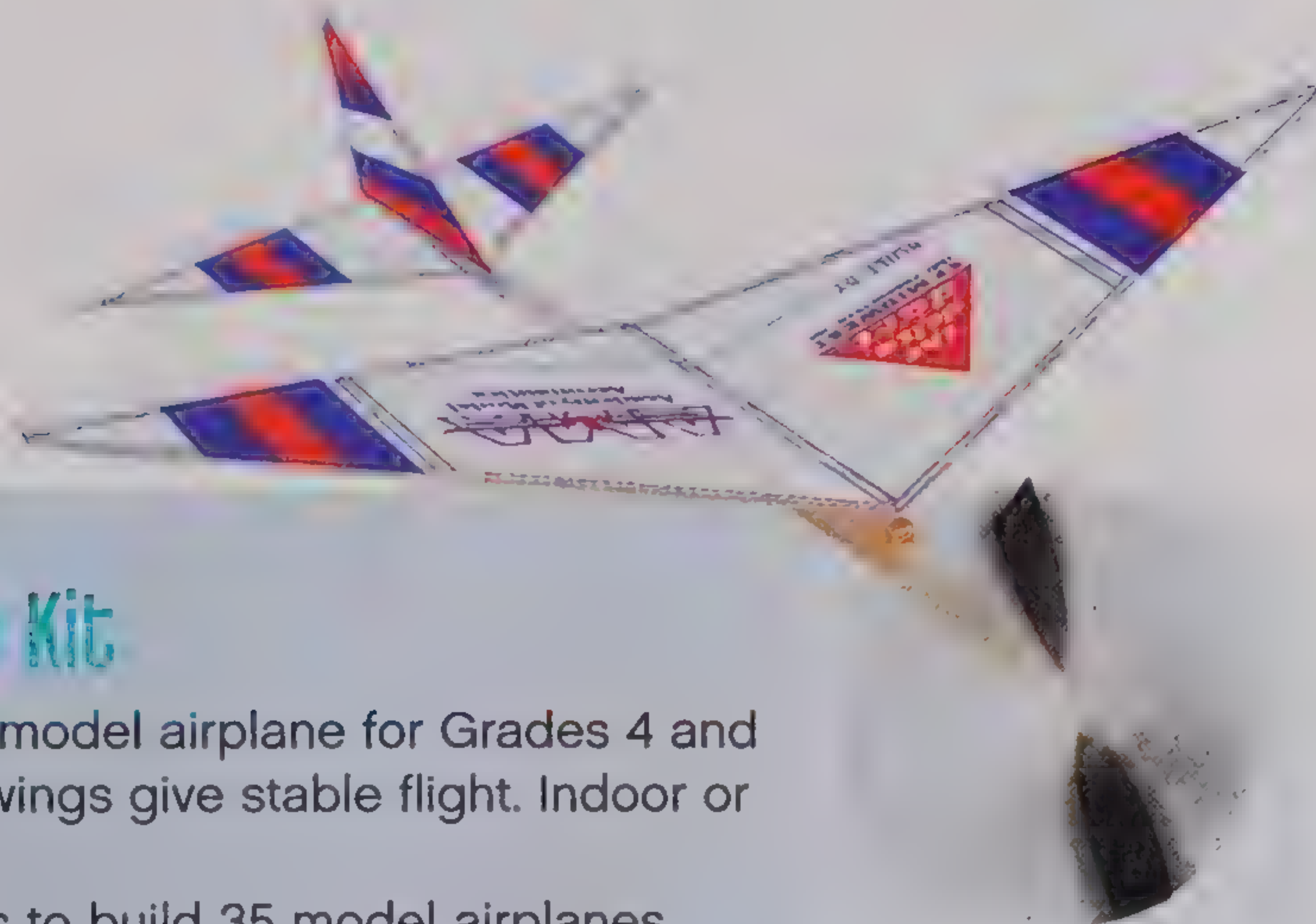
Use this rubber band-powered model airplane for Grades 4 and up. Pylon-mounted, paper-covered wings give stable flight. Indoor or outdoor use. Wingspan of 11-1/2".

Pack includes enough materials to build 35 model airplanes.

Grades 3+

TM757453 Kit—\$5.50

TM750187 35-Pack—\$53



Dr. Zoon Delta Dart Video

Join Dr. Zoon as he builds a *Delta Dart* model plane, talks about some of the aeronautic principles involved, and gives some pointers on the construction process. This is one high-flying video! Closed-captioned. Time: 21 minutes.

Grades 6+

TM759750 DVD—\$24.95



Indoor Rubber Band Motor Winder

Twist your rubber motors faster with this 15-to-1 winder. Designed for indoor model competitions, this handy device will make easy work of winding your models for peak performance.

TM757441—\$32



Catapults – Getting Started Package

This package provides enough materials for 30 students to build and experiment with their own rubber band-powered catapults. Students discover the effects of different load masses and rubber bands as they learn about tension, forces, data graphing, and other concepts.

The *Catapults – GS Package* includes the following products:

- Catapult Class Pack
- Siege Machines Book
- HD Bond II (6 two-ounce bottles included)
- Glue Applicator Tip (6 tips included)
- Catapult Video (DVD)

**TM735630 Catapults –
Getting Started Package—\$255**
Grades 6+

PITSCO
EDUCATION

A
\$278.50
value!



Visit LEGOeducation.us/catapult.

Catapult

Feeling some tension? Perfect! For the medieval catapult, stored tension equals the power of projectile motion – which now equals awesome learning power!

Build and use this snappy kit to demonstrate:

- Forces and motion
- Vectors
- Trajectory
- Potential and kinetic energy
- Simple machines
- Medieval history

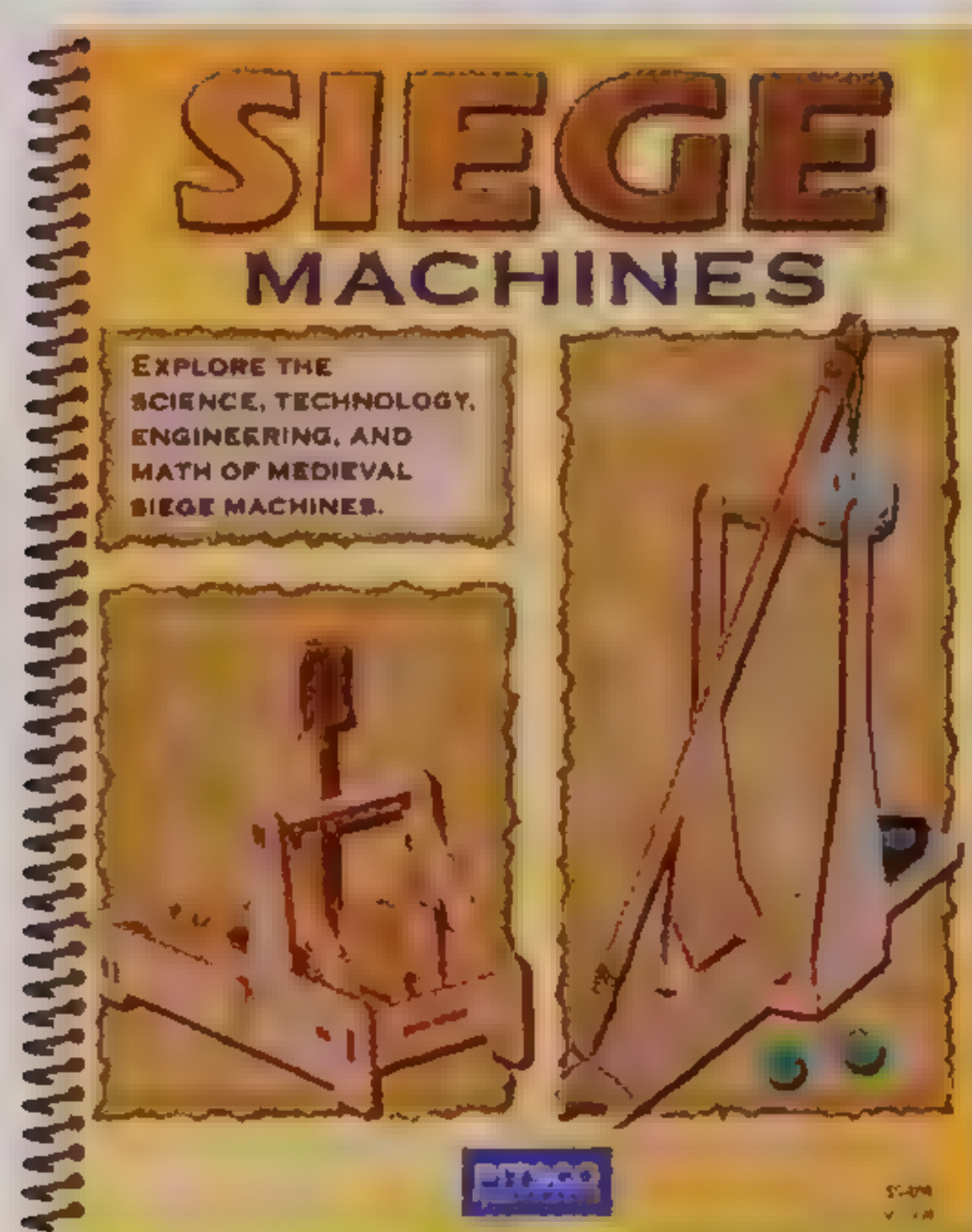
Plus, students can further develop math, physics, and problem-solving skills by experimenting with the catapult to reach different distances with varying weights of ammunition (pieces of clay). Going back to the Dark Ages has never been so enlightening! Clay included.

Grades 6+

TM759468 Kit—\$10.95

TM735629 10-Pack—\$83.95

TM735628 30-Pack—\$230



Siege Machines

From *The Lord of the Rings* to *Night at the Museum*, our culture is fascinated by siege machines used in medieval times. Tap into that fascination to teach math, science, and problem solving. This book details the history of the siege machines and then focuses on the math and science required to build and use catapults and trebuchets. Includes national standards met by the activities. Paperback/spiral-bound, 32 pages.

Grades 6+

TM759466—\$3.95



Catapults Teacher's Guide

Blow the dust off the historical catapult – because this flinging device is loaded and ready to deliver educational content to your classroom! This guide throws itself into subjects such as Newton's laws, projectile motion, simple machines, speed, and mass – all while your students build and test the fun catapult. Paperback/spiral-bound, 99 pages.

Grades 6+

TM991325—\$24.95

Catapult Video

With
Pitsco's
Catapult
activity, tension
should be in
the rubber
band – not
in your classroom! So make
building this kit a fun fling with
the *Catapult* video.

Follow along with the step-by-step instructions that will have your students' catapults built and operating in no time. Along the way, students learn about torsion and other types of energy, laws of physics, projectile motion, and the history of siege machines. Closed-captioned.

Time: 18 minutes.

Grades 6+

TM733030 DVD—\$24.95



Trebuchets – Getting Started Package

Help your students learn *and* have a good time with our *Trebuchets – GS Package*. As students assemble and use the trebuchets, they absorb lessons about inertia, counterweights, friction, and velocity.

The *Trebuchets – GS Package* includes the following products:

- Trebuchet 25-Pack
- Siege Machines Book
- Modeling Clay
- Mass Plates (pkg of 100) (2 packages included)
- HD Bond II (5 two-ounce bottles included)
- Trebuchet Video (DVD)

TM727135 Trebuchets – Getting Started Package—\$270
Grades 6+

PITSCO
EDUCATION

A
\$303.15
value!

Visit LEGOeducation.us/trebuchet.



Modeling Clay

NEW

Makes great projectiles and straw rocket nose cones.

TM737660—\$3.50

10 or more—\$3.25 each



Trebuchet

Experience the thrill of flinging projectiles like medieval war machines while focusing on height, velocity, and distance. Students can alter projectile (clay) mass, string length, or the counterweight of the *Trebuchet* to test different variables.

Includes punch-out basswood body parts, sling materials, and other hardware. Clay and mass plates are sold separately.

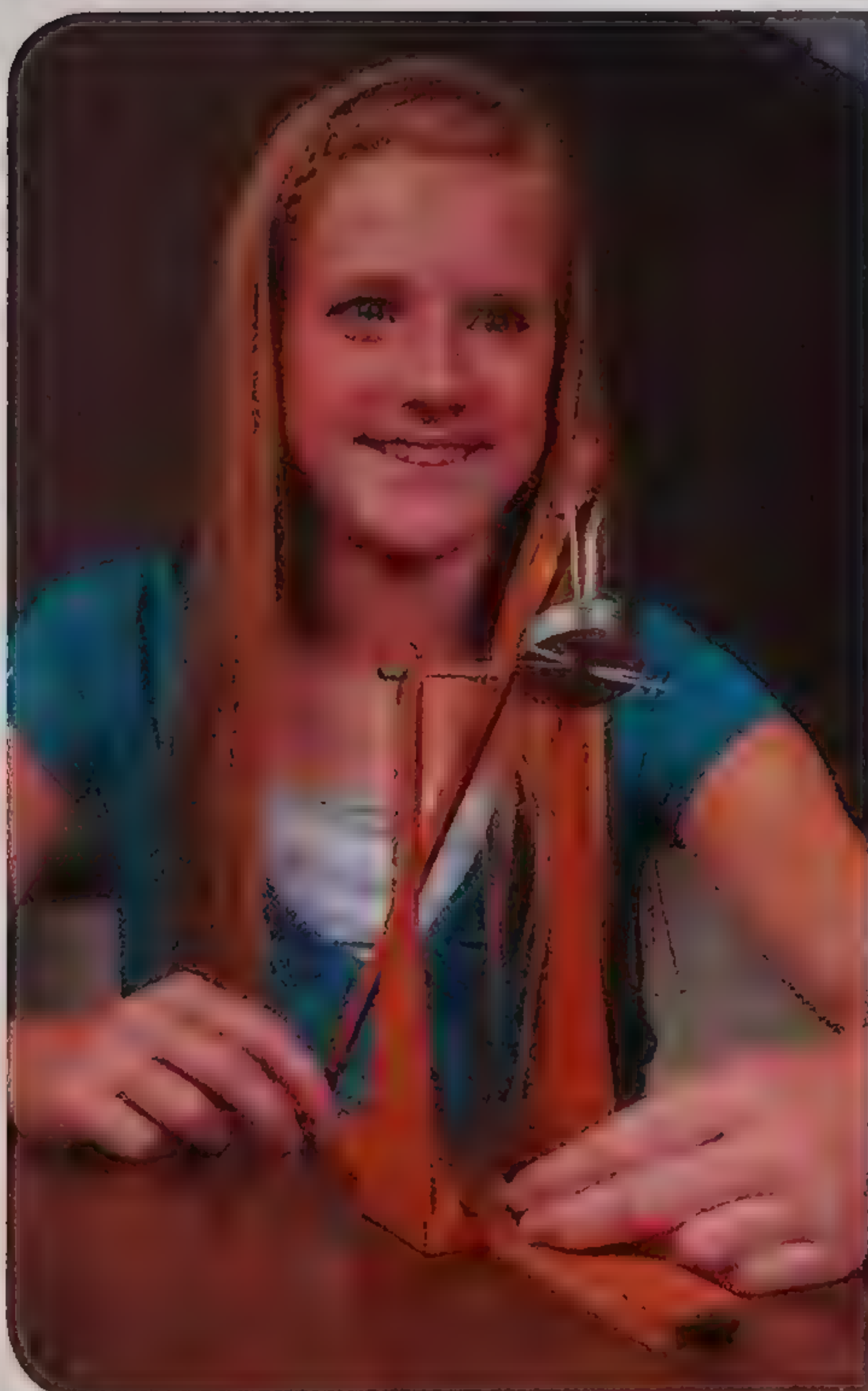
Packs include enough materials to make 10 or 25 trebuchets.

Grades 6+

TM726635 Kit—\$10.95

TM735634 10-Pack—\$85

TM727013 25-Pack—\$200



Trebuchets

Teacher's Guide



Trebuchets Teacher's Guide

Wage war on dull curricula! This teacher's guide leads the charge of teaching how projectile mass affects distance and trajectory achieved, how much potential energy a given trebuchet has, how to engineer a trebuchet to hit a given target, and more! Paperback/spiral-bound, 95 pages. Grades 6+

TM759611—\$24.95

Trebuchet Video

Learn how to build the siege machine called the *trebuchet*, the catapult's powerful cousin, with this program. Using the video's clear visual instructions, your students will be flinging projectiles and experimenting with counterweights in no time. Plus, they'll learn about parabolas, projectile motion, and the history of siege machines. Closed-captioned. Time: 24 minutes. Grades 6+

TM759836 DVD—\$24.95



Mousetrap Vehicles - Getting Started Package

This package provides an easy way for 30 students to get the mousetrap vehicle activity rolling in your classroom. Students experience simple machines and other physics principles through the design and construction of a vehicle powered only by an ordinary mousetrap.

The *Mousetrap Vehicles – GS Package* includes the following products:

- Mousetrap Vehicle 30-Pack
- Torsion Wheel
- Tubing Cutter
- Insta-Cure+ Glue
- Dry Powder Graphite
- Mousetrap Vehicle Video (DVD)

TM723614 Mousetrap Vehicles – Getting Started Package—\$379
Grades 6+

PITSCO
EDUCATION

A
\$401.85
value!

Visit LEGOeducation.us/mtv.

Basic Mousetrap Vehicle Kit

More than a mousetrap vehicle kit, this is a complete start-to-finish design activity. The student follows the design process and sees direct applications of science and technology as he or she designs and builds a mousetrap-powered vehicle and competes with classmates to design the fastest car or the car that goes the farthest. Each kit includes a mousetrap, balsa wood, four CDs (for wheels), CD spacers, thrust washers, brass tubing, string, and building instructions.

Packs include enough material to build 10 or 30 mousetrap vehicles.

Grades 6+

TM757033 Kit—\$15.95

TM757034 10-Pack—\$125

TM757035 30-Pack—\$335

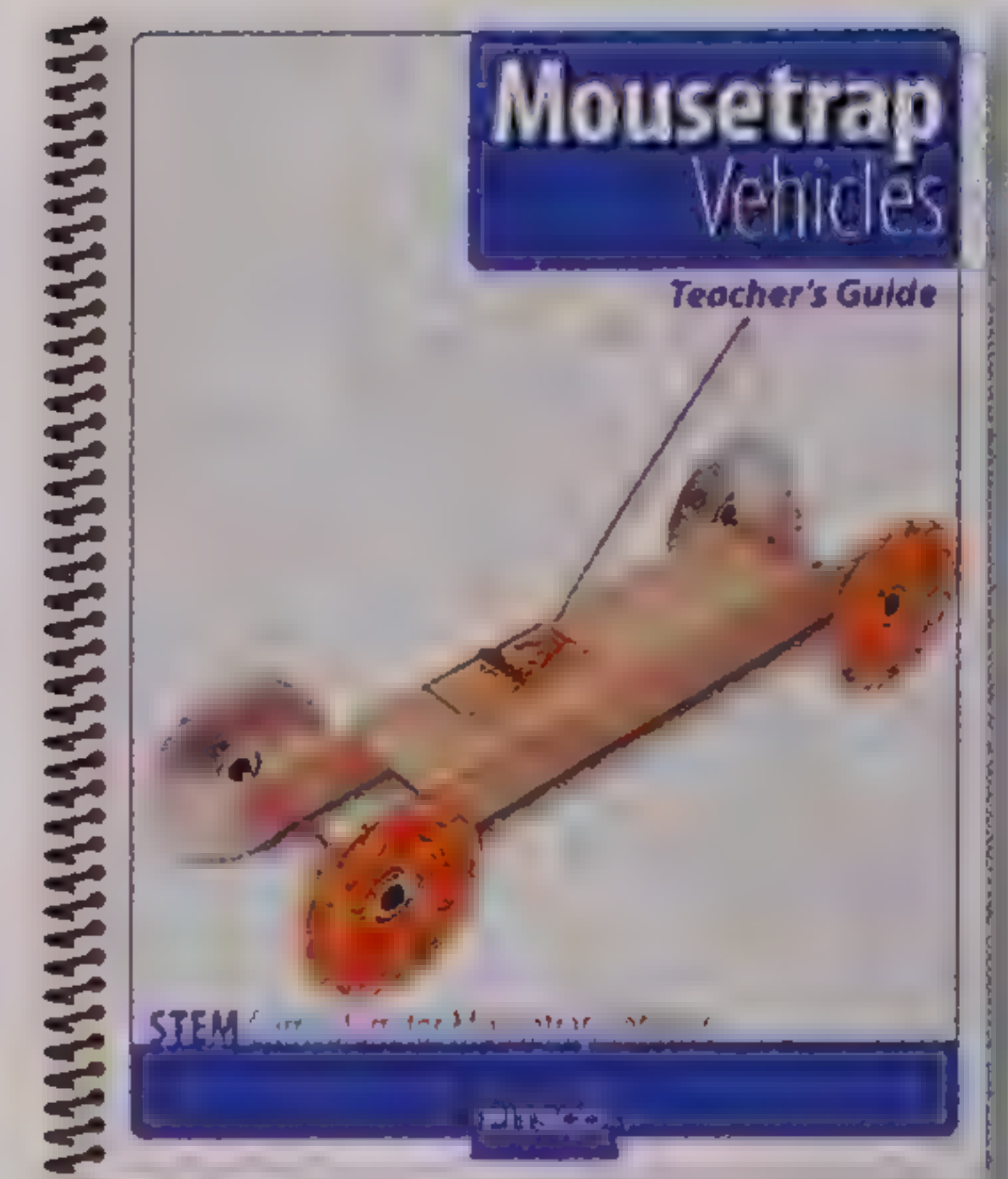
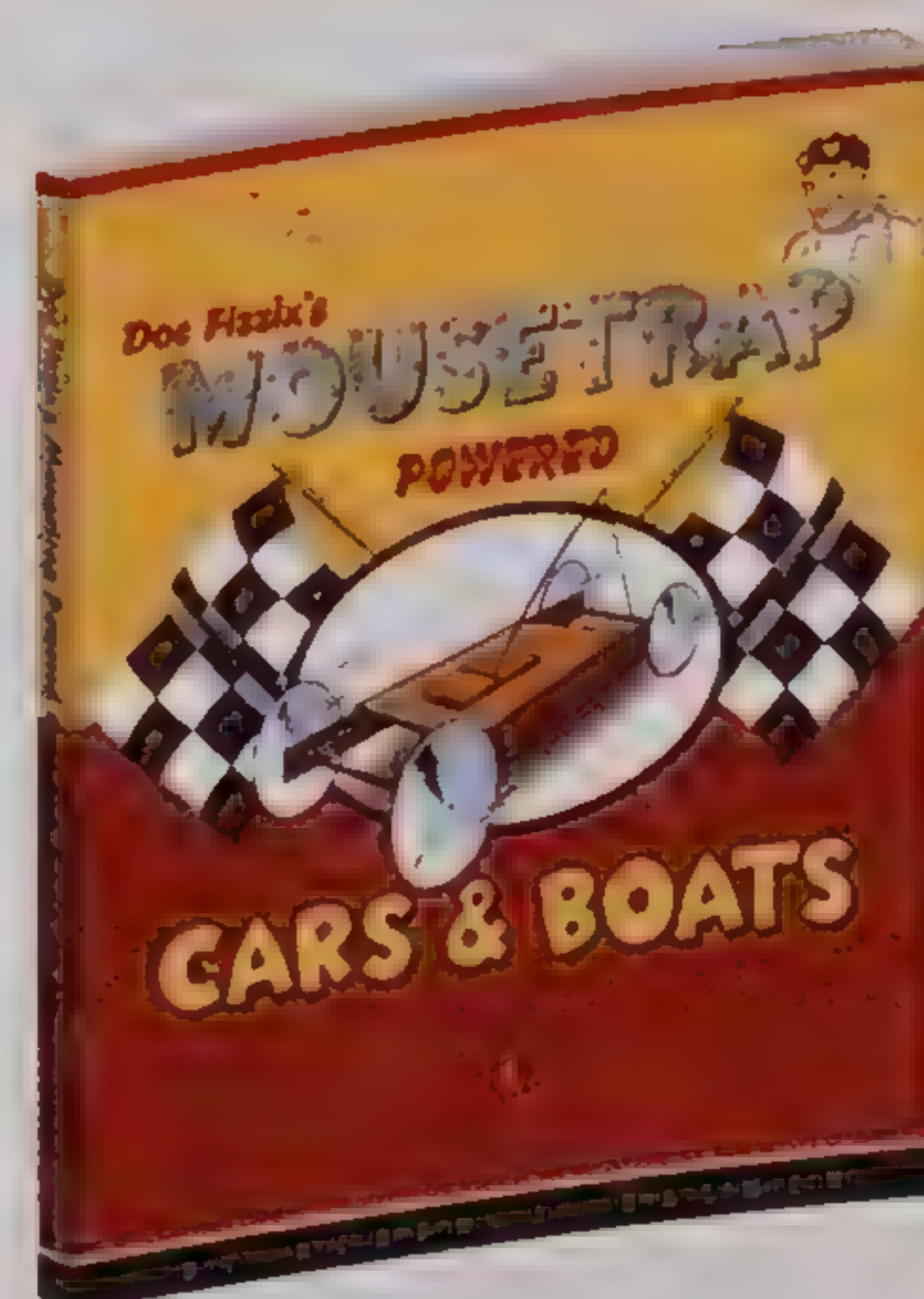
Doc Fizzix's Mousetrap Powered Cars & Boats

Generously illustrated and fun to read, *Doc Fizzix's Mousetrap Powered Cars & Boats* examines in depth the physics of mousetrap vehicle construction. It takes students through each variable that must be considered during construction – making lightweight frames, reducing friction, making wheels, building for speed, and building for distance. Packed with excellent construction tips and written in simple, easy-to-understand terms, this lighthearted book will give your students the information they need to build winning mousetrap vehicles.

Note: This book replaces both the student's and teacher's editions of the popular *Mouse Trap Cars: The Secrets to Success*. The author has combined both volumes into one book and added even more information. Paperback, 149 pages.

Grades 6+

TM758261—\$9.95



Mousetrap Vehicles Teacher's Guide

Examine, alter, design, and experiment with mousetrap vehicles to understand velocity, potential and kinetic energy, acceleration, speed, circumference, and distance – there's more potential in this guide than just potential energy! Paperback/spiral-bound, 96 pages.

Grades 6+

TM759463—\$24.95



Mousetrap Vehicle Video

Guide students through building a mousetrap vehicle with this step-by-step guide. Then, see how the stored energy in the mousetrap's spring can be used to speed the car across the room.

Along the way, learn about storing mechanical energy, Newton's laws of motion, and how to calculate speed. Closed-captioned. Time: 26 minutes.

Grades 6+

TM759835 DVD—\$24.95

EZ Mag Mousetrap Vehicles - Getting Started Package

Hands-on excitement to the max! This Getting Started package provides an easy way for 30 students to get the mousetrap vehicle activity rolling in your classroom. Students experience simple machines and other physics principles through the design and construction of a vehicle powered only by an ordinary mousetrap.

The EZ Mag Mousetrap Vehicles – GS Package includes the following products:

- EZ Mag MTV 30-Pack
- Torsion Wheel
- Dry Powder Graphite
- Insta-Cure+ Glue
- Doc Fizzix's Mousetrap Powered Cars & Boats
- EZ Mag MTV Video (DVD)

TM735693 EZ Mag Mousetrap Vehicles – Getting Started Package—\$599

Grades 6+

PITSCO
EDUCATION

A
\$401.85
value!

Visit LEGOeducation.us/ezmag.



Mousetrap Racers: The Complete Builder's Manual

In this volume, Doc Fizzix outlines everything needed to build a mousetrap vehicle (MTV), how to build different MTVs, advanced construction techniques, and eight lab experiments for extended learning. One chapter is dedicated to how MTVs work and the related physics, including friction, traction, laws of motion, torque, rotational inertia, and more. Paperback, 142 pages.

Grades 3-8

TM734389—\$14.99

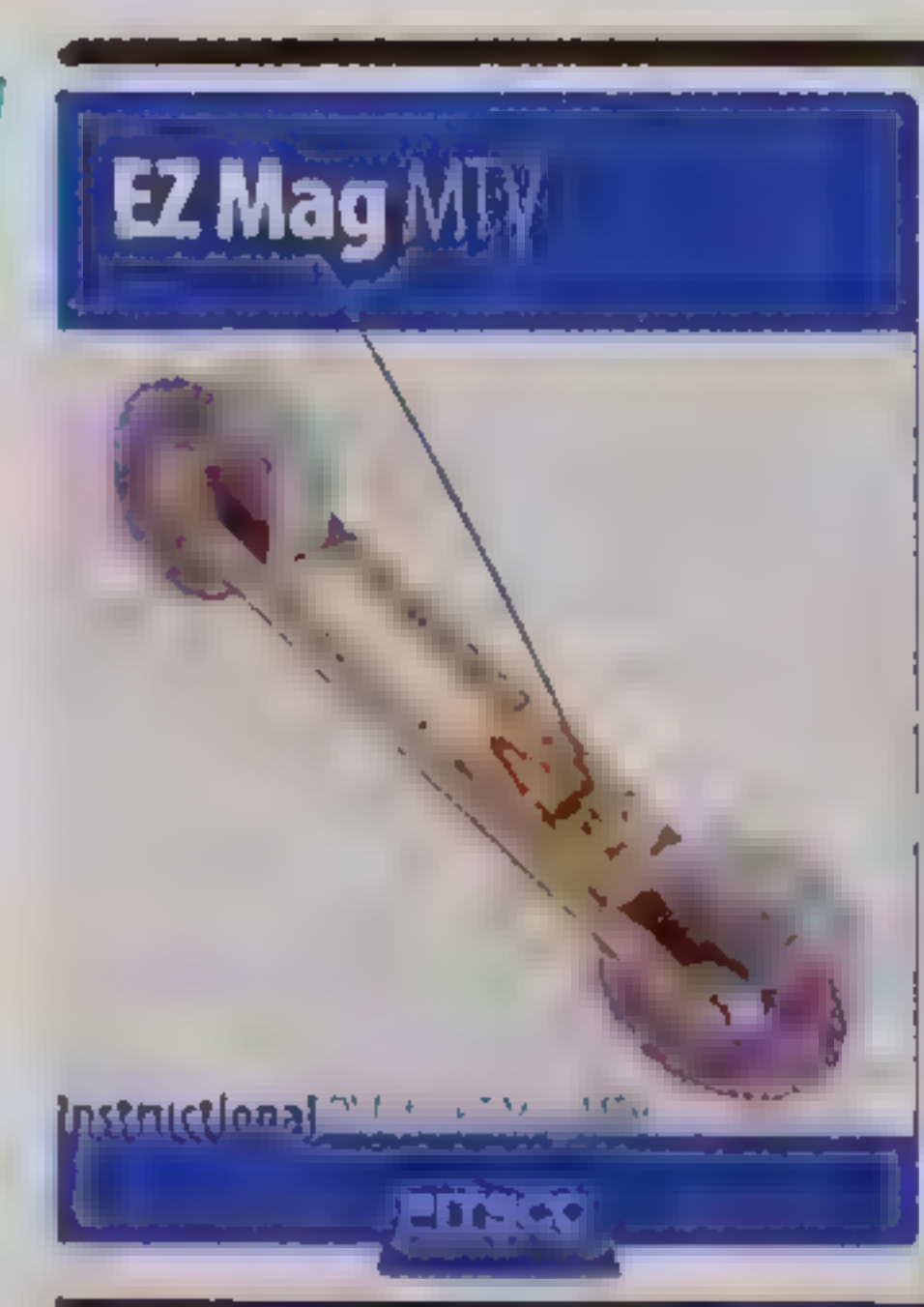
EZ Mag MTV Video

The EZ Mag MTV was already a snap to construct, but now this instructional program makes assembling it even easier. Follow the instructions to build this laser-cut kit that combines magnetism with a mousetrap to catch some fun in the classroom!

Plus, your students learn that magnetism, Newton's laws, mechanical energy, and other principles are key to the activity. Closed-captioned. Time: 16 minutes.

Grades 6+

TM733089 DVD—\$24.95



Magnetic Mousetrap Vehicle

This mousetrap car really rolls thanks to its almost friction-free magnetic axle assembly. The secret? Tiny magnets embedded in the chassis hold the point of the steel axle in place. The result? Axles attach to the chassis as if by magic without pressure or friction. When a magnetic car races against a standard mousetrap vehicle, your students will see the effect of friction on speed and distance measurements.

Grades 6+

TM724641 Kit—\$14.95

TM725384 25-Pack—\$325

NEW



PITSCO
EDUCATION

Crane Kit

Give students an advantage – an understanding of the mechanical advantage inherent in cranes!

Simple machines such as pulleys, wheels and axles, and levers work together to help move heavy loads – these machines helped build the world as we know it. Featuring laser-cut parts, this *Crane Kit* is built easily – students quickly move on to experimenting with load, ballast, and other concepts.

Includes basswood parts, string, hardware, and a user guide.

The class pack includes enough materials to build 30 *Crane Kits*.

Grades 6+

TM732869 Kit—\$19.95

TM735687 30-Pack—\$540



Crane Video

A crane is a complex machine made of three simple machines, but building the *Crane Kit* isn't complex at all when following this step-by-step program. As you build, learn about the various simple machines and the uses of cranes around the world. Then, try replacing the crane's hook with a magnet or balancing the crane with a ballast. Closed-captioned. Time: 19 minutes.

Grades 6+

TM734126 DVD—\$24.95



Torsion Catapult

NEW

At last, a catapult kit that uses the same power source as the ancient and medieval catapults – torsion! By twisting the strings holding the launch arm, students can launch small projectiles with this fun siege machine. Plus, it's great for helping students understand how to apply torque, potential and kinetic energy, projectile motion, and more.

The kit features laser-cut basswood parts and the string and hardware needed to build the catapult. Requires a small screwdriver, white glue, and scissors, sold separately.

Grades 6+

TM737521—\$8.95

TM737965 10-Pack—\$79.95



Torsion Ballista

NEW

Inspired by the ancient Greek and Roman ballistae, this kit uses torsion on both sides of the bow arm to fling Styrofoam balls across the classroom! Great for demonstrating how torque can be applied to create power as well as potential and kinetic energy and projectile motion.

The kit features laser-cut basswood pieces, string, hardware, and two Styrofoam balls (projectiles). Requires a small screwdriver, white glue, scissors, and ruler, sold separately.

Grades 6+

TM737517—\$12.95

TM737966 10-Pack—\$115



Balloon Car Explore-A-Pak

Your students will feel inflated after they participate in this fun and challenging balloon car activity. Students build their own balloon-powered vehicles, ranging from the simple (card-stock templates are provided for the vehicle bodies) to the outrageous (students can dream up their own wild designs)!

If desired, the cars can be raced against one another in a classroom showdown. The *Balloon Car Explore-A-Pak* includes a teacher's guide, balloons, wheels and axles, templates, and other needed materials for 50 students.

Grades 3+

TM990011—\$69

TM990052 Ford Template (pkg of 100)—\$38.50

TM990053 Chevy Template (pkg of 100)—\$38.50

TM990054 Dodge Template (pkg of 100)—\$38.50

TM990055 Tank Template (pkg of 100)—\$38.50



Zoon Air Car Pack

There's no better way to introduce students to the concepts of force, motion, transfer of energy, and friction than with an inexpensive activity needing just a few tools and a little time. With the *Zoon Air Car*, students learn the basics of car design and performance using straws, paper clips, rubber bands, and parts from a die-cut sheet. Includes instructions and enough supplies to make 30 *Zoon Air Cars*.

When students finish building, testing, and modifying the *Zoon Air Cars*, set up a competition to find out which cars are the fastest and to help students discover what makes a better car.

Grades 3+

TM724614—\$49

PITSCO
EDUCATION

Fold & Race Ramp

Fold it up and start racing within minutes!

The Pitsco *Fold & Race Ramp* is designed specifically for elementary classroom needs.

Economical, easy to store, and fun to use. Use the ramp to test and race *Fold-N-Roll Racers*, *Balloon Cars*, and other rolling models in your classroom.

Grades 3+

TM990022—\$7.95



Fold-N-Roll Racer

A collection of cool and colorful hot rods that can be cut out and folded into three-dimensional vehicles! Sixteen sweet street machines are printed in color on card-stock pages. Enough wheels and axles are provided to make all 16 models into rolling vehicles. **Note:** The wheels that come with the kit are different from those shown in the photo. Custom and other wheels are available separately.

A great elementary transportation activity!

Grades 3+

TM754546—\$29.95

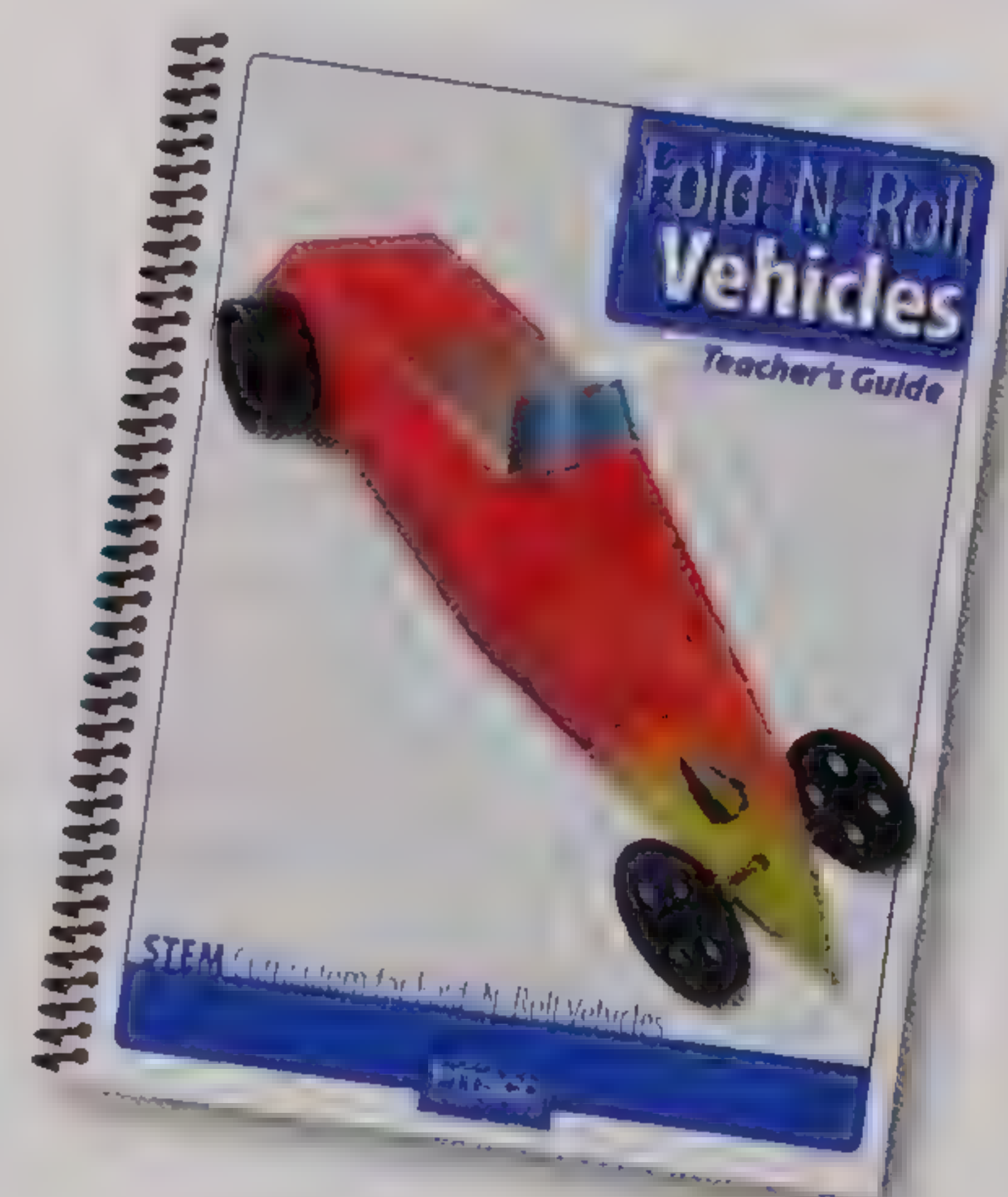
Fold-N-Roll Vehicles Teacher's Guide

Paper cars might seem elementary, but by designing, building, and experimenting with fold-and-roll vehicles, students discover keys to momentum, velocity, design, potential energy, material costs, and more.

Paperback/spiral-bound, 97 pages.

Grades 6+

TM732941—\$24.95





Straw Structures - Getting Started Package

Structures start taking shape with this Getting Started package. Students explore structures and geometric shapes with instruction from Dr. Zoon and the Polyhedra poster. This package provides material for 30 students.

The Straw Structures – GS Package includes the following products:

- Plastic Straws (pkg of 500) (5 packages included)
- Pipe Cleaners (pkg of 100) (9 packages included)
- Polyhedra Poster
- Dr. Zoon Straw Structures Video (DVD)

TM735757 Straw Structures – Getting Started Package—\$79

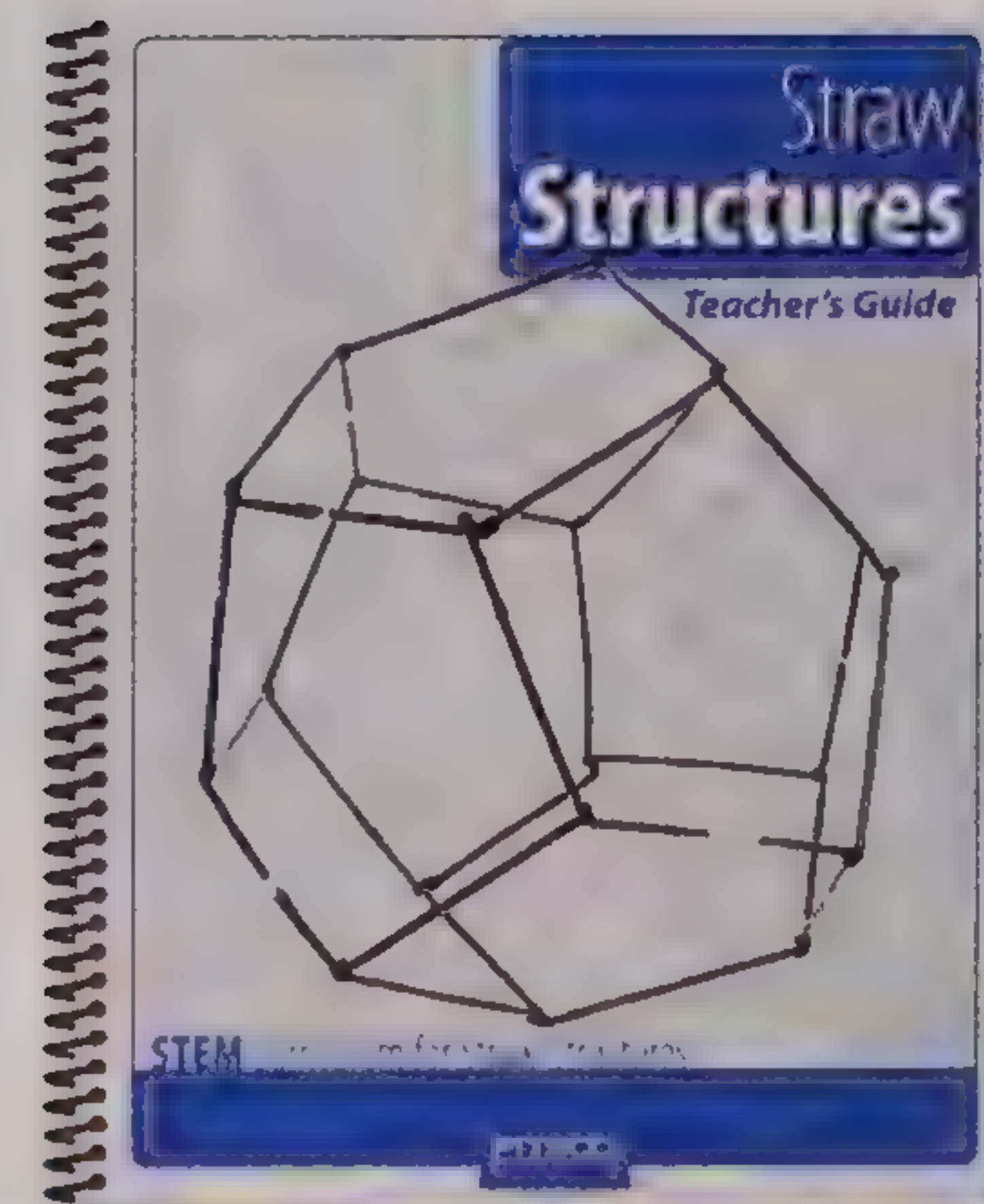
Grades 3+

PITSCO
EDUCATION

A
\$109.90
value!



Visit LEGOeducation.us/strawstructures

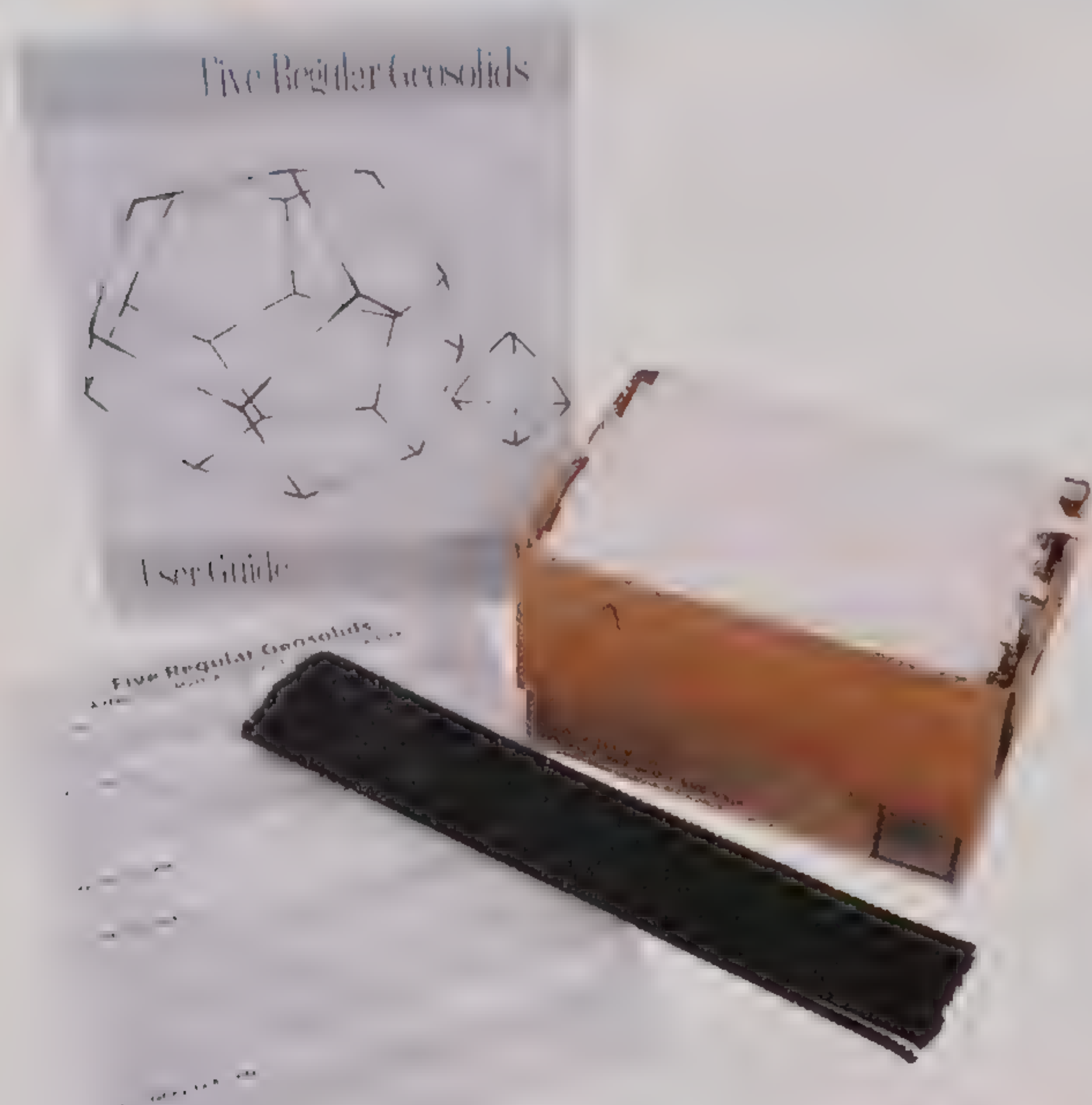


Straw Structures Teacher's Guide

Structures made with straws and pipe cleaners might look simple, but they offer a range of learning. Geometric figures and their strengths, ratios, structural designs, and static forces are some of the subjects in this guide that you and your students will really soak up! Paperback/spiral-bound, 95 pages.

Grades 6+

TM759728—\$24.95



Geosolids Kit

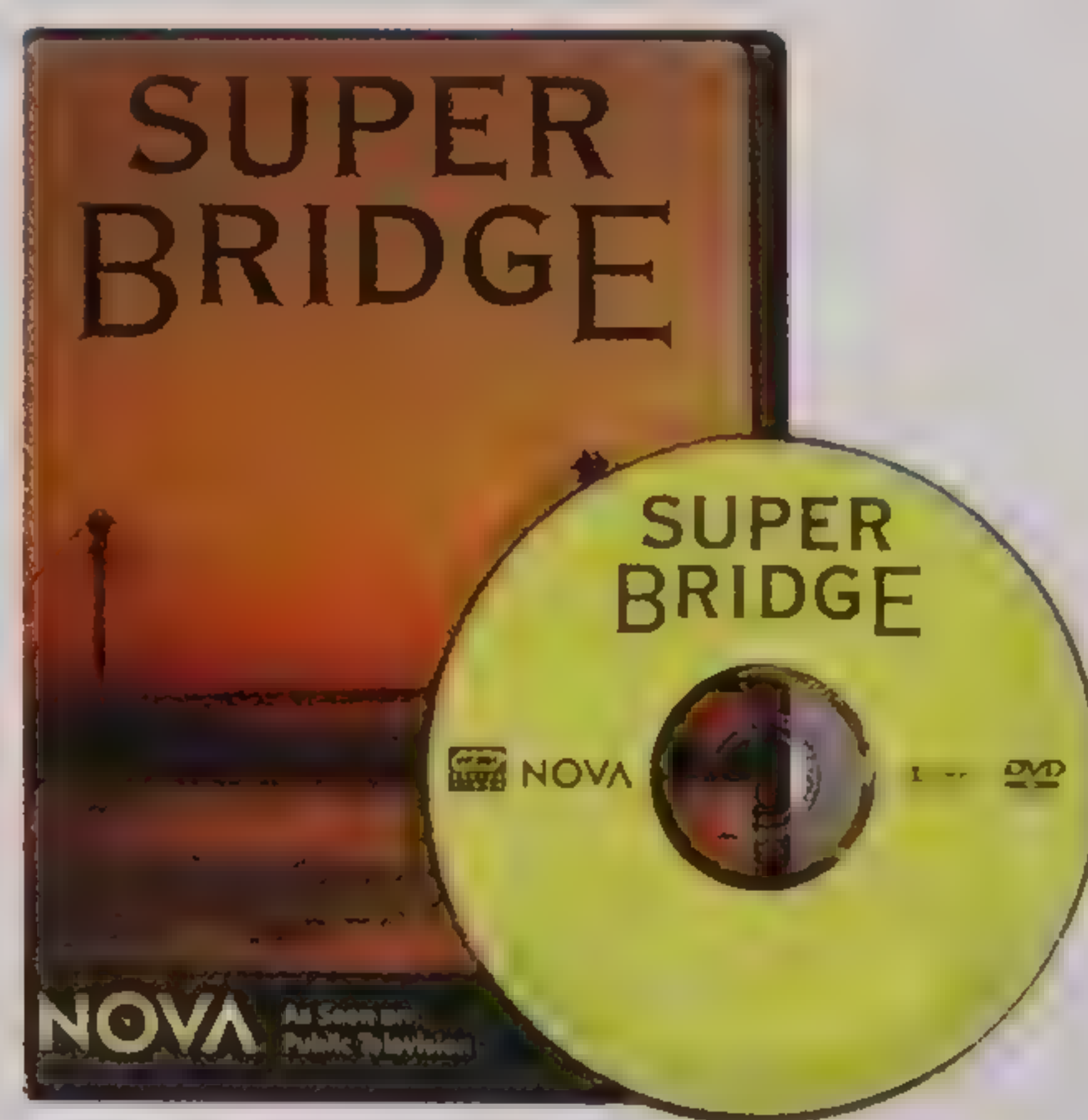
NEW

Using simple materials, students build three-dimensional models of five geosolids, or regular polyhedra: tetrahedron, cube, octahedron, dodecahedron, and icosahedron. Activities have students note the number of vertices, edges, and faces of each structure. Includes 100 straws and pipe cleaners and instructions.

Grades 3+

TM735231—\$4.95

TM736315 30-Pack—\$119.95

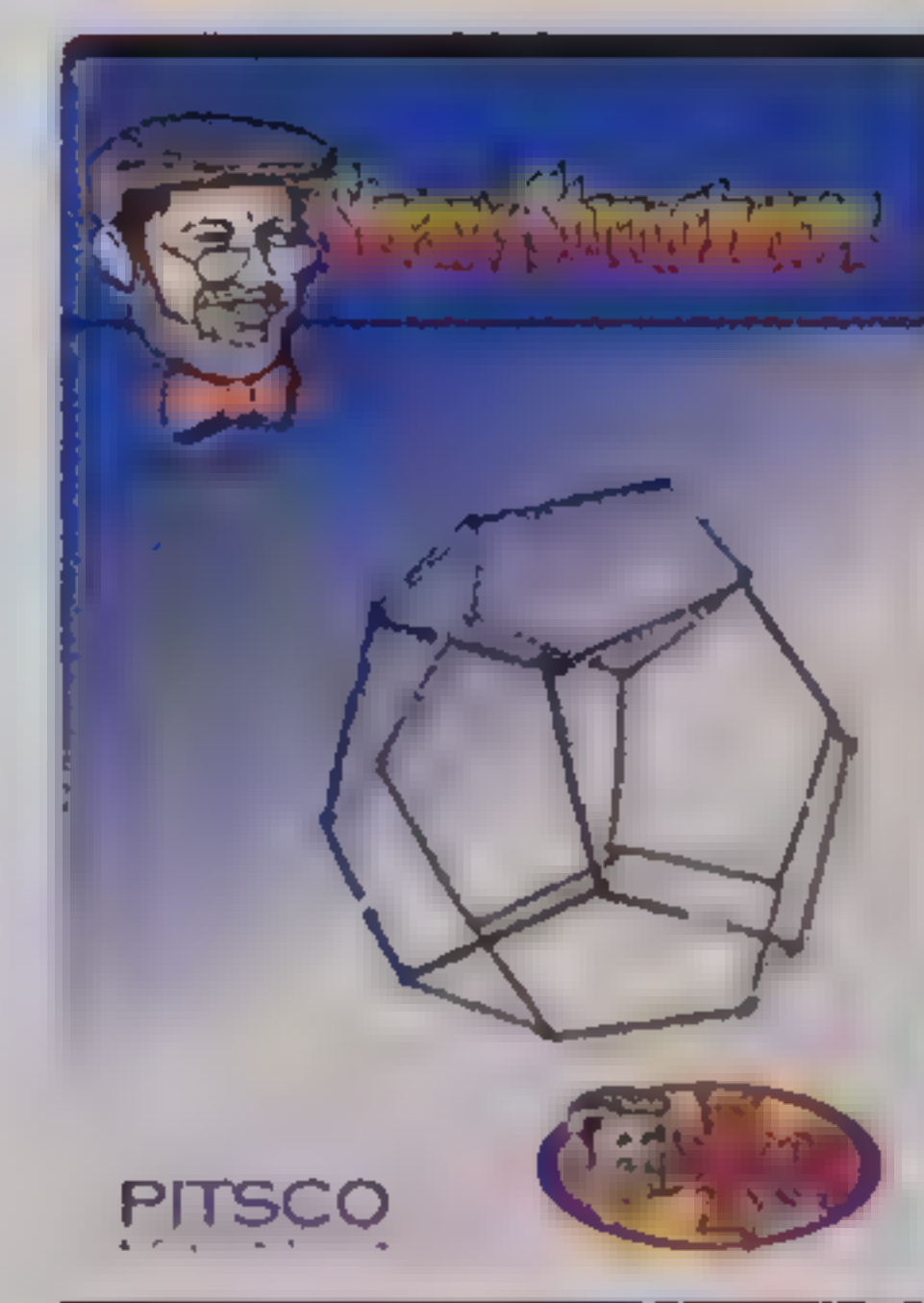


Super Bridge Video

Super Bridge covers every phase of the construction of the Clark Bridge that spans the Mississippi at Alton, Illinois. Featuring modern cable-stayed design, the bridge was built over four years in often adverse conditions. See how its builders overcame the project's unique challenges. Closed-captioned. Time: 120 minutes.

Grades 6+

TM733512 DVD—\$19.95



Dr. Zoon Straw Structures Video

Join Dr. Zoon as he explains some basic principles of how structures work. To illustrate these principles, he uses straws and pipe cleaners to build a variety of structures including many geometric solids. Along with the demonstrations, he shows students how to build their own straw structures. Closed-captioned. Time: 24 minutes.

Grades 3+

TM759703 DVD—\$24.95



Dr. Zoon Structures DVD Series

For beginners of straw, toothpick, or balsa wood structure activities, the *Dr. Zoon Straw Structures Video* and *Dr. Zoon Toothpick Bridges Video* build students' understanding of structures, design, and geometric shapes. For more advanced coverage of these concepts, as well as forces and construction techniques, we've included the *Dr. Zoon Bridge Building Video* and *Dr. Zoon Tower Building Video*. All programs cover construction, tips, and explanation of concepts. Closed-captioned. Time: 125 minutes.

Grades 3+

TM759711 DVD—\$69.95



Plastic Straws For Structures

Use these straws for many activities: bridge and structure building, air-powered dragsters, and more!

TM723733 (1/4" diameter x 7-3/4" long, clear) (box of 250)—\$2.50

TM756856 (1/4" diameter x 10" long) (box of 500)—\$9.50



Art Straws For Structures

Unwaxed straws are 16 inches in length. Use for bridge and tower building and architectural models. Straws make lightweight but strong and durable projects.

TM752843 (4 mm diameter, 16" long) (box of 1,800)—\$45

Pipe Cleaners

Attach straws together for structures easily with pipe cleaners. Colors may vary.

TM754853 (pkg of 100)—\$3



Polyhedra Poster

Do your students need a little help in the area of geometric shapes? Strengthen their skills with this colorful polyhedra poster. Displays the vertices, edges, and faces of 18 different polyhedrons, including the five regular polyhedrons.

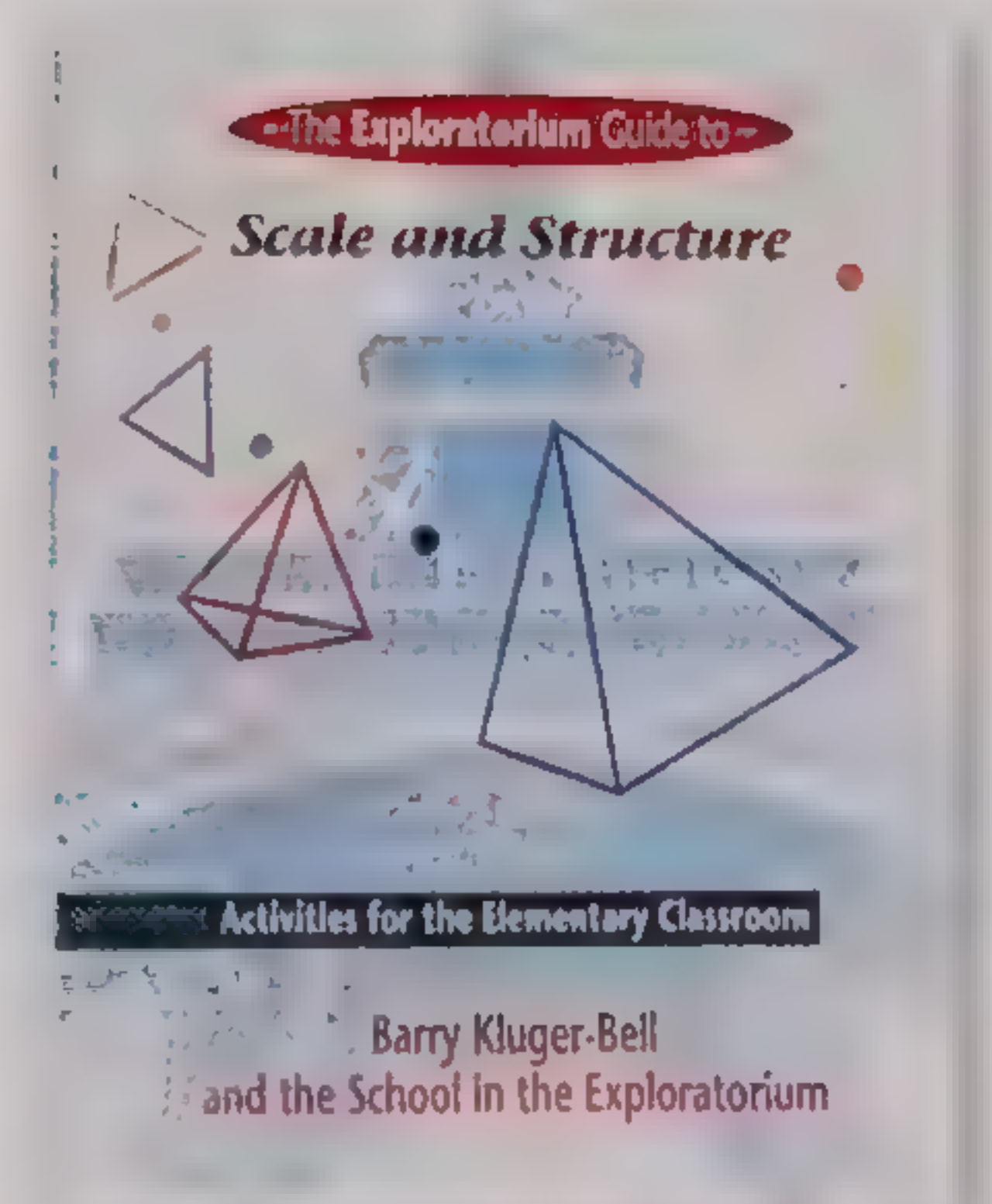
TM758497 (18" x 28")—\$9.95

The Exploratorium Guide to Scale and Structure

A teacher's resource book full of structural engineering activities. Fun, practical activities teach aspiring engineers about structures and scale. Projects include building with straws, clay, and toothpicks; constructing paper bridges; building domes; and load-testing structures. Includes many illustrations and photos, teacher's tips, discussion points, and extension options. Paperback, 198 pages.

Grades K-8

TM754466—\$45.95





Toothpick Bridges - Getting Started Package

These bridges have a great amount of shear strength and are sheer fun for your students. The *Toothpick Bridge Tester*, *Dr. Zoon Toothpick Bridges Video*, and materials for 30 bridges are included.

The *Toothpick Bridges - GS Package* includes the following products:

- Toothpick Bridge Tester
- Empty 2 oz Glue Bottles (pkg of 30)
- Square Toothpicks (pkg of 800) (8 packages included)
- Blue Structures Glue (16 oz) (2 in box)
- Waxed Paper
- Dr. Zoon Toothpick Bridges Video (DVD)

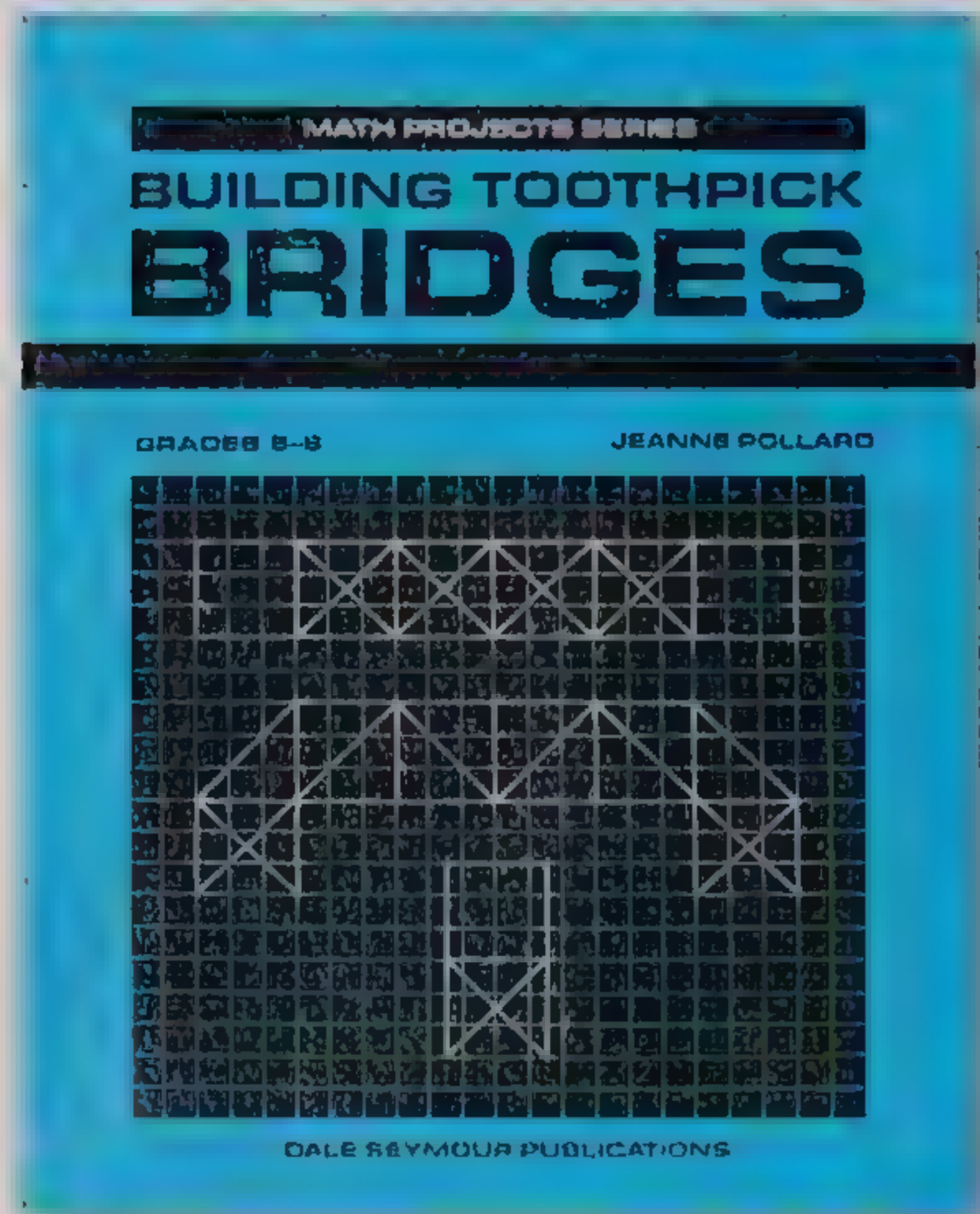
TM735589 Toothpick Bridges - Getting Started Package—\$79
Grades 3+

A
\$106.90
value!

PITSCO
EDUCATION



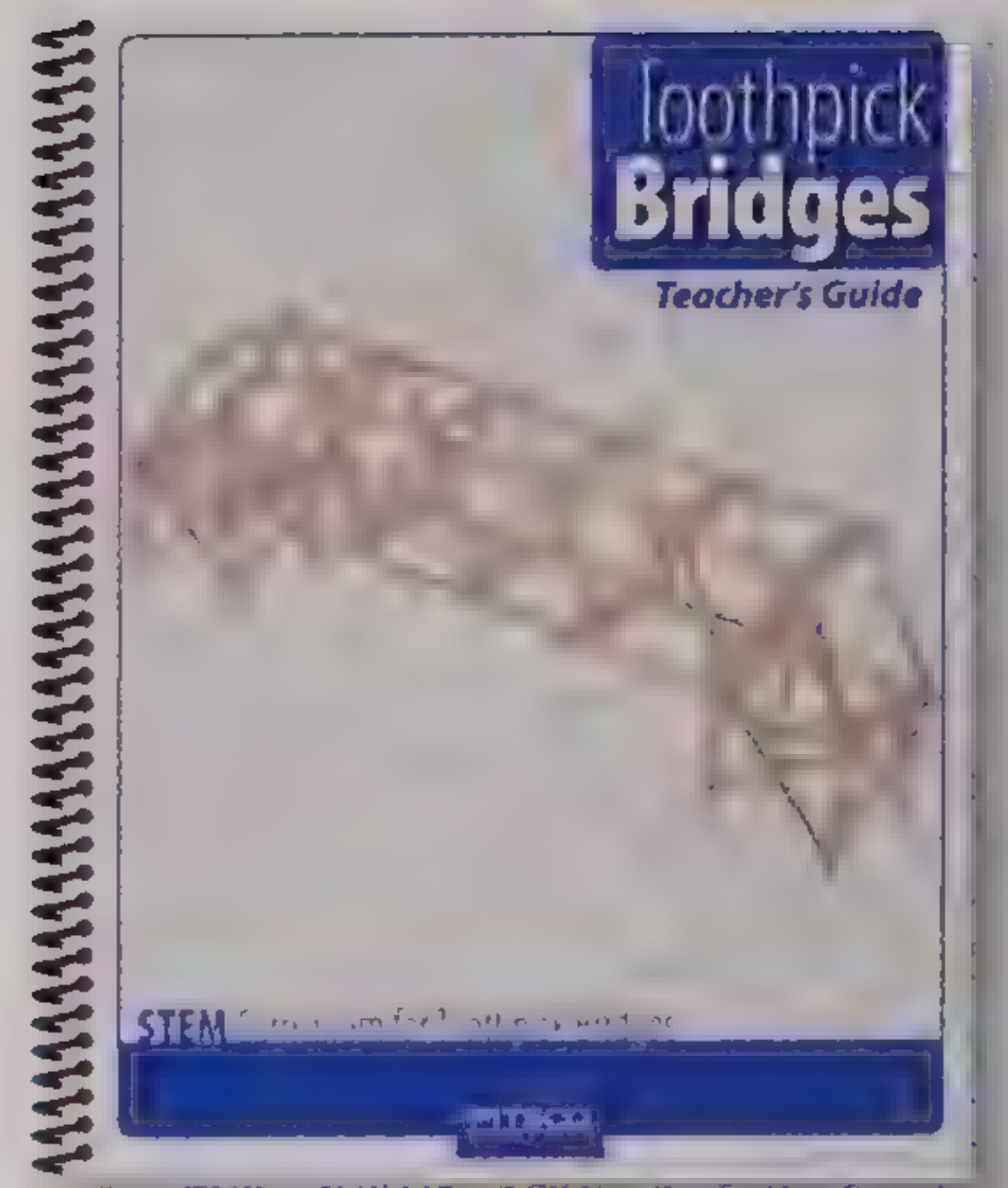
Visit LEGOeducation.us/toothpickbridges.



Building Toothpick Bridges

Link your math curriculum to the world around you with the motivational ideas in this book. A company of students builds a bridge with an architect, project managers, bookkeepers, a budget, and materials – a practical approach to math, geometry, and social studies! For the teacher, the book contains clear guidelines and plans. Paperback, 30 pages.

Grades 3-8
TM751784—\$29



Toothpick Bridges Teacher's Guide

This guide is ideal for those teachers who love toothpick bridge activities but need them to cover a greater span of curricula. Covering concepts such as tension, force, ratios, efficiency, and truss design, students learn much more than model building. Paperback/spiral-bound, 97 pages. Grades 6+

TM759615—\$24.95



Dr. Zoon Toothpick Bridges Video

Since the dentist said to floss more often, Dr. Zoon has had to find some use for all those toothpicks!

This simple yet challenging activity is a favorite among many teachers. Let Dr. Zoon provide a few ideas and step-by-step instructions to ensure success for students.

When asked about the strength of toothpicks, Dr. Zoon replied, "We'll cross that bridge when we get to it." Closed-captioned. Time: 26 minutes. Grades 3-8

TM759642 DVD—\$24.95





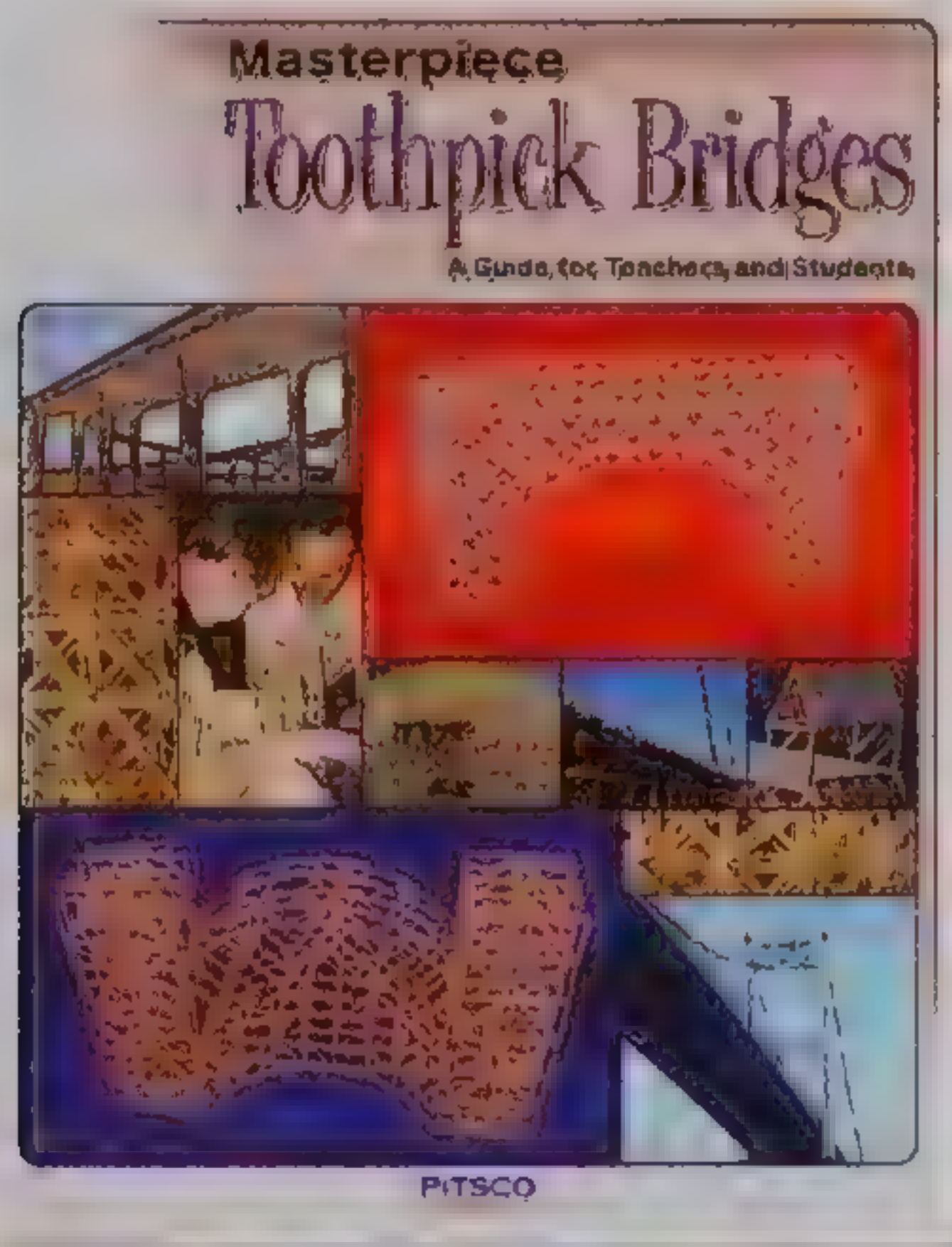
Masterpiece Toothpick Bridges Class Pack

NEW

Your students will impress themselves and you after finishing one of the elaborate bridges from *Masterpiece Toothpick Bridges*. Give them everything they need to accomplish the construction with this class pack. Includes a pint of colored *Structures Glue*, 30 two-ounce *Glue Bottles*, *Waxed Paper*, and 25,000 toothpicks!

Grades 3+

TM735689—\$54



Masterpiece Toothpick Bridges

This activity guide helps teachers and students bridge the gap between building simple toothpick bridges and mastering the construction of a toothpick bridge that will drop jaws.

Masterpiece Toothpick Bridges delves into design principles needed to construct an elaborate bridge, detailed lessons, material selection, building techniques and tips, a research paper assignment, bridge testing and more! Plenty of photos illustrate the details of this black-and-white book. Paperback/spiral-bound, 48 pages.

Grades 6+

TM759026—\$19.95



Toothpick Bridge Tester

Here's an easy, economical way to find out how strong a toothpick bridge is. Attach the *Pitsco Toothpick Bridge Tester* to your finished bridge and gradually fill the tester with weights until your bridge beats the competition or collapses. Includes mounting hardware.

Grades 3+

TM730003—\$19.95

Round Toothpicks

2-5/8" long.

TM751741 (pkg of 800)—\$2.95 each

10 or more pkgs—\$2.80 each pkg

Square Toothpicks

2-5/8" long.

TM751742 (pkg of 800)—\$2.50 each

10 or more pkgs—\$2.30 each pkg

Flat Toothpicks

2-3/8" long.

TM733450 (pkg of 2,500)—\$3.50 each



Early Simple Machines Set III

Young students build fun and simple models like a seesaw, rolling vehicle, spinning top, raft, and many more. By playing with and manipulating the models, they experience pulleys, levers, gears, and wheels and axles while exploring energy, buoyancy, and balance.

Key Benefits:

- Perfect starter set for introducing science and design technology concepts
- Easy for young students to work with
- Enables students to explore how familiar objects work

Ages 5+

TM779656—\$119.95

TM991429 Early Simple Machines – Getting Started Package—\$1,365.95

A
\$1,434.95
value!

Early Simple Machines Set III

12x



Ages 5+

Early Simple Machines III Activity Pack

1x



TM991799 Early Simple Machines – Getting Started Package with Professional Development—\$3,165.95

WWW

Early Simple Machines III Activity Pack

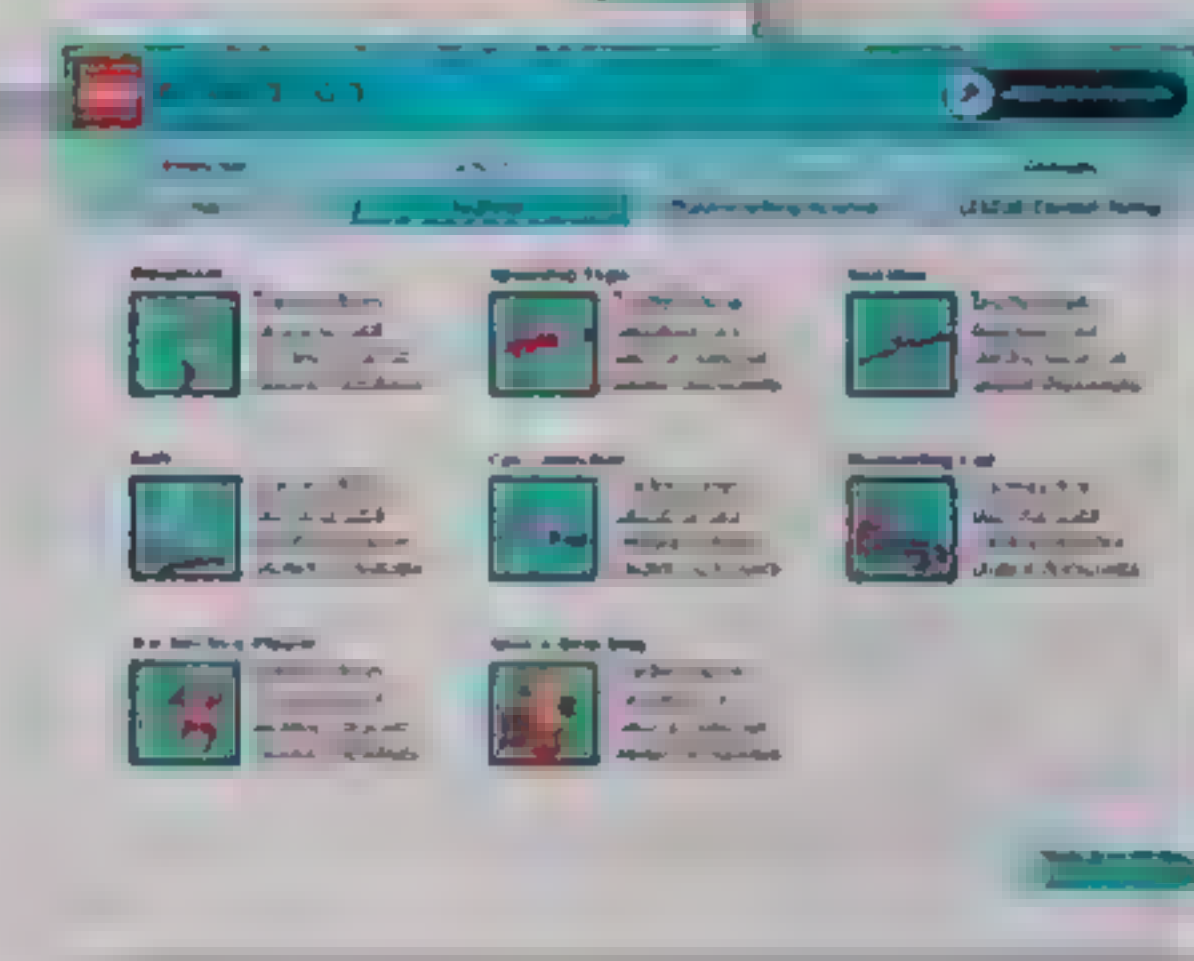
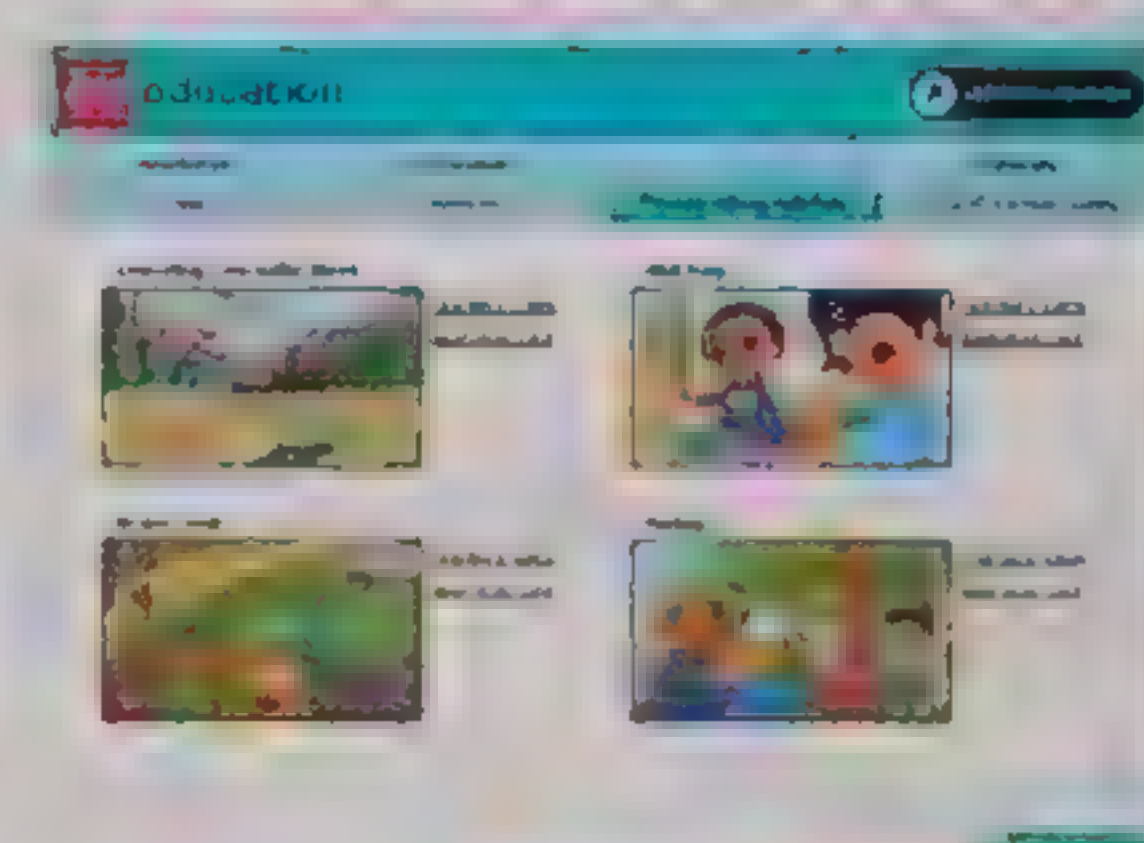
This activity pack includes eight 45-minute lessons, each with extension activities designed to enable students to explore, investigate, and solve tasks related to mechanical principles, as well as learn about energy, balance, buoyancy, and much more.

Key Learning Targets:

- Explore basic mechanical principles, such as gears, levers, pulleys, and wheels and axles
- Investigate force, buoyancy, and balance
- Identify key parts of simple machines

Ages 5+

TM209656—\$34.95



107

WWW

Early Structures Set

Students learn basic structures concepts with hands-on exploration! Concepts include balance within structures, ways of building structures, and stability.

Key Learning Targets:

- Explore basic structures such as towers, bridges, and walls
- Explore balancing, strength and stability, and moving parts
- Solve problems through design

Ages 5+

TM779660—\$99.95



Numbers and Mosaics Set

With loads of number and sign tiles, this big set is the perfect way to start exploring early math concepts such as addition, subtraction, and counting. The set also encourages number recognition, sorting, sequencing, and learning mathematical symbols and concepts. The mosaic tiles enable your students to learn about symmetry, shapes, colors, and sequences. Comes with blue storage container, activity guide, and four white building plates.

Key Learning Targets:

- Addition, subtraction, and counting
- Recognizing, sorting, and sequencing numbers
- Mathematical symbols and concepts
- Symmetry, shapes, colors, and sequences

Ages 3+

TM779531—\$121.95



Letters Set

This updated set now has more elements to help your students learn basic language, reading, and motor skills.

Key Learning Targets:

- Letter and sound recognition
- Uppercase and lowercase letter recognition
- Word building

Ages 3+

TM779530—\$70.95



Tech Machines Set

Using the popular play theme of travel, students learn about machines, the tools used to work on them, and their functions. An activity pack is also included that features story starters, problem-solving tasks, and full-color illustrations.

Ages 3+

TM779206—\$179.95



3-Seat Playtable

This versatile and economical LEGO® table is made of solid hardwood and comes with three built-in LEGO building plates, three chairs, and a center storage unit and accommodates up to six students (three seated, three standing). Combined with LEGO sets and activities, the table can be turned into a LEGO imagination and building center or used to create a math, language, and science station for students. Works with both System and DUPLO® sets. Assembly required.

TM774509—\$269.95



Fairytale and Historic MiniFigure Set

This set features a variety of minifigures that enable children to create and act out beloved fairy tales and popular themes. Includes pirates, a witch and wizard, a king and queen, mine workers, a mermaid and merman, and many more.

Ages 4+

TM779349—\$49.95 ⚠

Add to any LEGO® System set to increase play value.

Use to encourage storytelling around historical themes or myths and legends.



Comes with lots of accessories



Community MiniFigure Set

Add even more life to your bustling LEGO® town! This set features indispensable people from everyday life in a community, such as a postman, hospital staff, a mechanic, and many more. Includes 22 minifigures plus a variety of accessories, such as food, animals, a laptop, a bicycle, and a backpack!

Ages 4+

TM779348—\$49.95 ⚠



LEGO® Bricks Set

This set is perfect for creative play or adding to your existing LEGO® sets. Includes nine fun colors in 11 different sizes.

Ages 4+

TM779384—\$52.95 ⚠



DUPLO® Large Bulk Set

This set is excellent on its own or as a supplement to other DUPLO® sets and features 144 elements including nonstandard bricks with eyes, wings, and more.

Ages 18 months+

TM779027—\$45.95

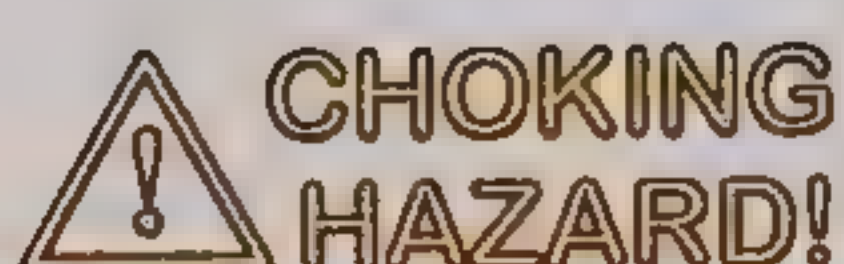


DUPLO® XL Bulk Set

This set is not only huge but also has lots of special elements for your students' creations.

Ages 18 months+

TM779090—\$179.95



See page 1 for more information.



Community People Set

This set has 20 adult figures representing many different community roles. Students can explore gender, ethnicity, occupations, and age through role-play and use the set to populate LEGO® towns.

Ages 2+

TM779224—\$40.95



World People Set

This set represents families from around the world. By role-playing with these figures, students learn to appreciate and respect cultural and generational differences, developing an awareness of the multicultural society in which they live.

Ages 2+

TM779222—\$40.95



DUPLO® Small Building Plates Set

This set includes 15 DUPLO® building plates in four different colors – blue, green, gray, and beige to mimic water, grass, stone, and sand – and four different sizes – three 4.9" x 10" plates, four 4.9" x 4.9" plates, four 2.5" x 4.9" plates, and four 1.2" x 4.9" plates.

Ages 18 months+

TM779079—\$40.95



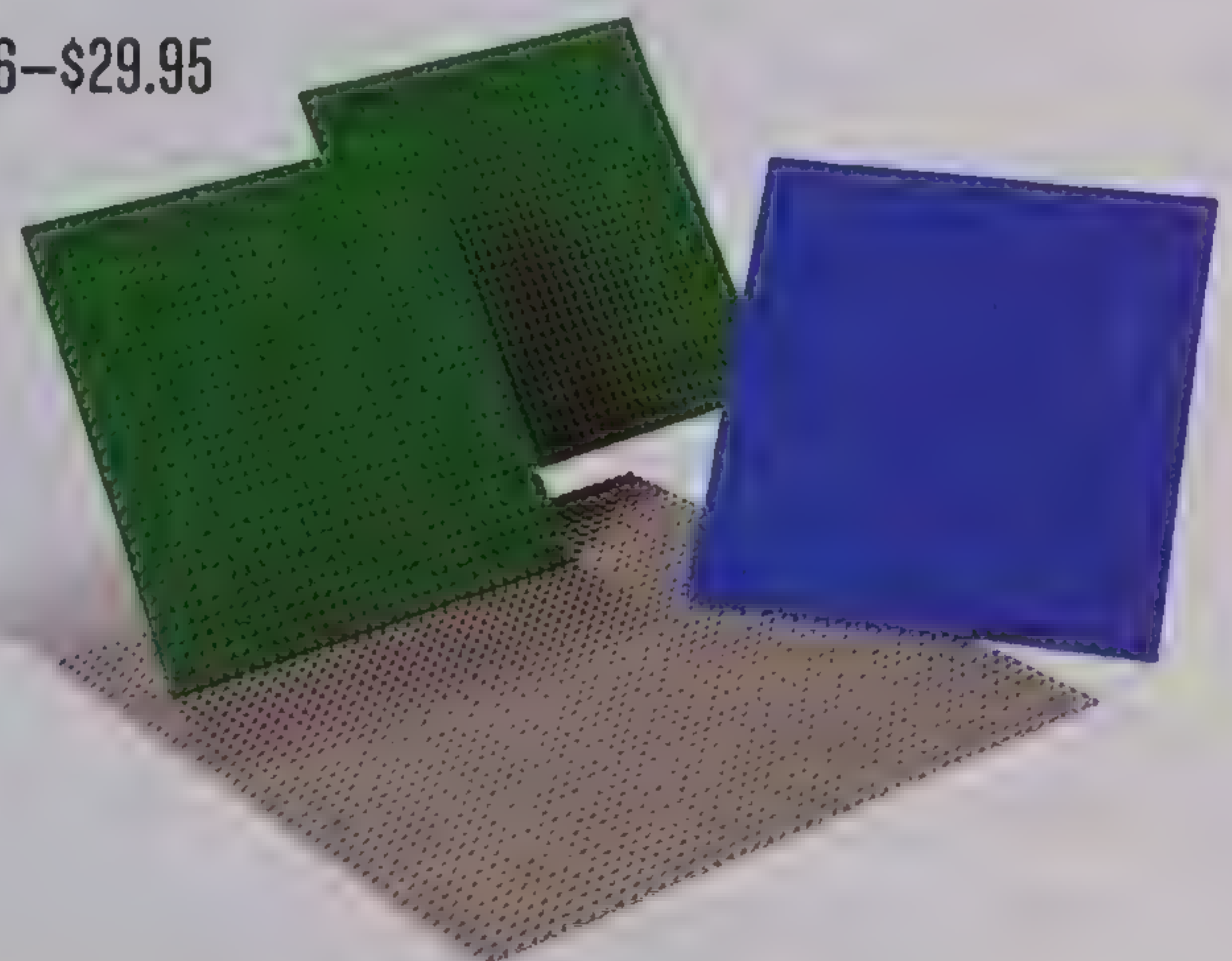
Large Building Plates Set

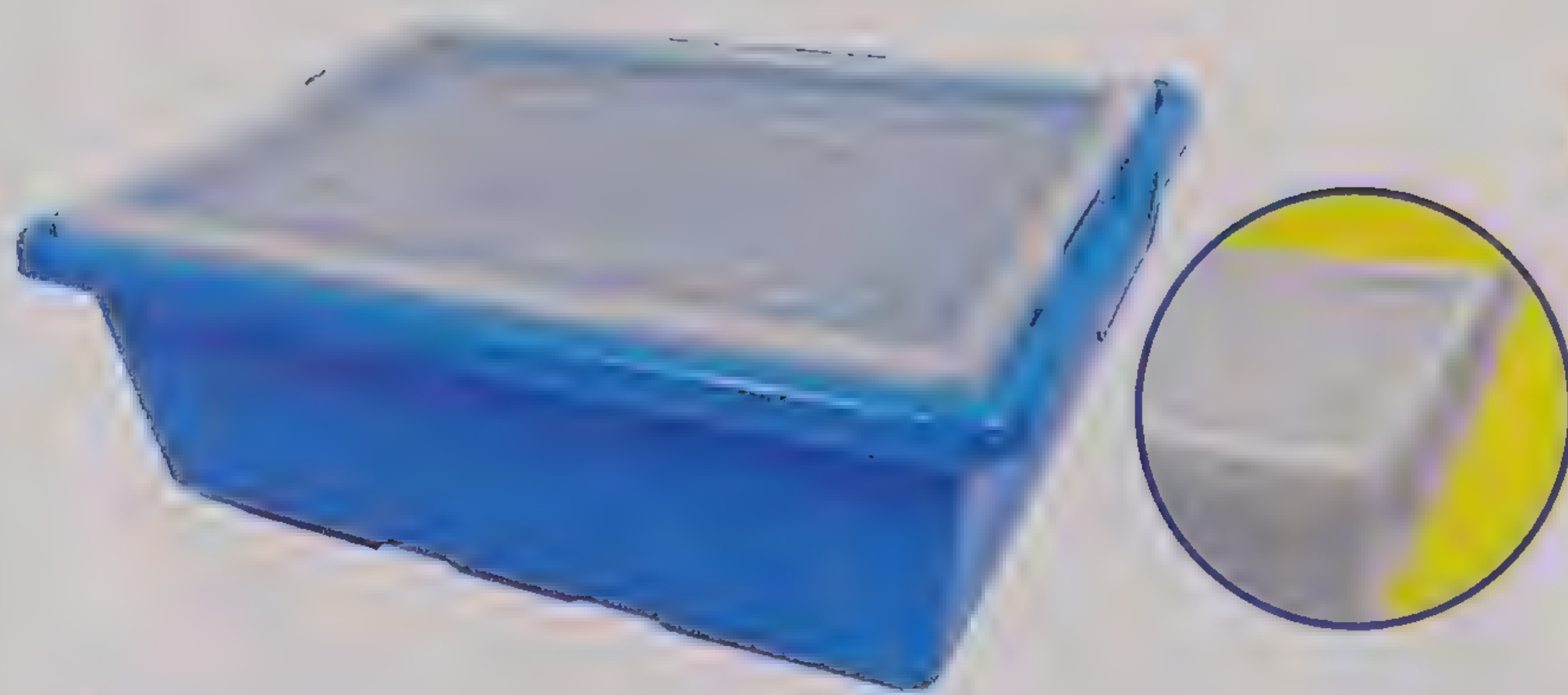
Children need a foundation on which to build, and each durable baseplate forms a solid base for all LEGO® building bricks.

Includes one gray baseplate (38 cm x 38 cm), two green baseplates (25 cm x 25 cm), and one blue baseplate (25 cm x 25 cm).

Ages 8+

TM779286—\$29.95





Medium Storage Bin

A smaller version of the X-Large Storage Bin, this medium bin measures 16.5" x 12" x 6".

TM779001 Blue—\$9

TM991319 Gray—\$9



X-Large Blue Storage Bin

This stackable large bin is great for most LEGO® Education sets. The transparent lid snaps into place and stays put. Bin measures 16.5" x 12" x 10".

TM209840—\$18

TM779840 set of 6—\$104.95



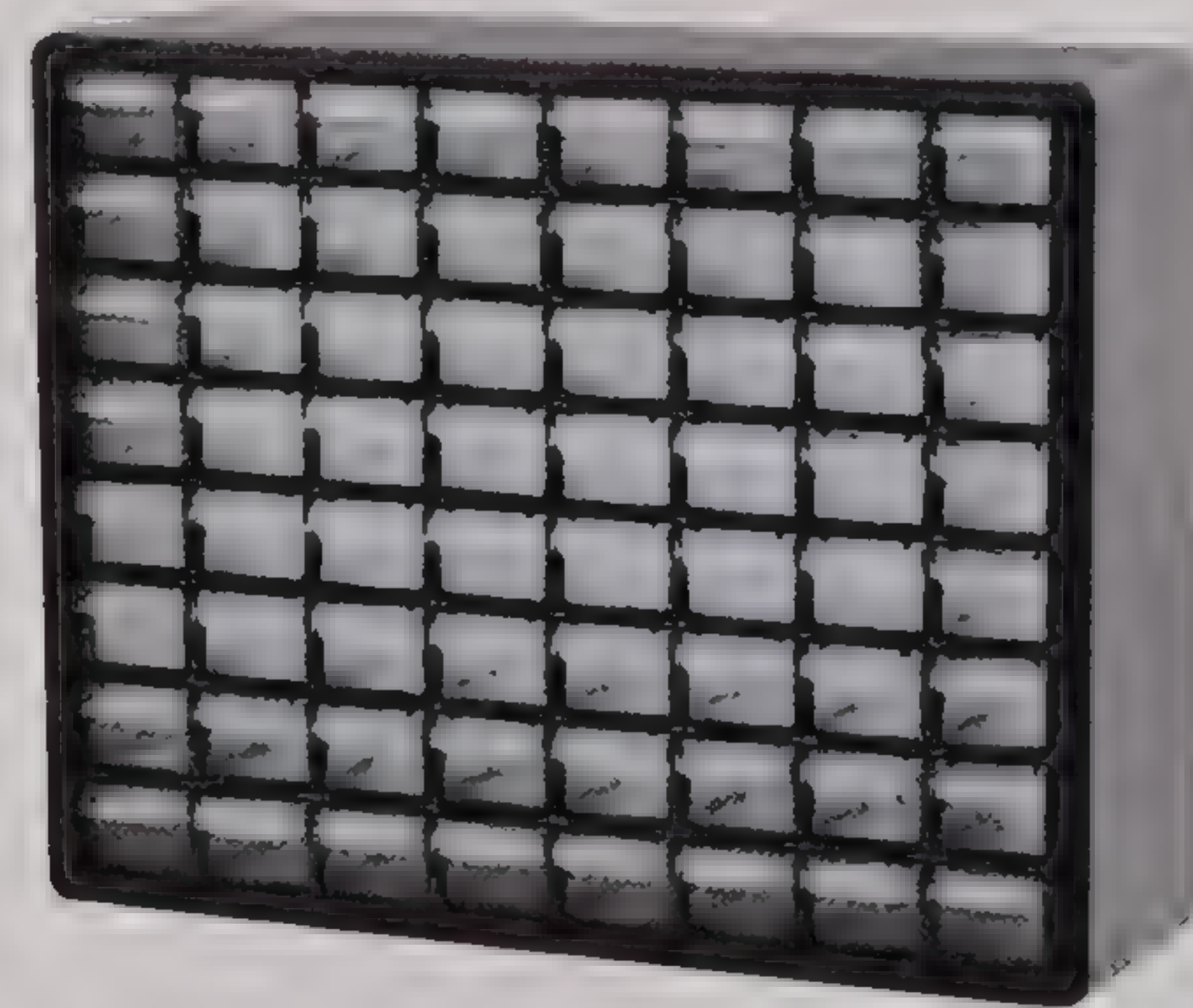
Stackable Storage Bin

These sturdy plastic storage bins will come in handy in any classroom, especially one with thousands of small LEGO® parts. Use for separating bricks by color or shape or for storing items like battery boxes, leads, batteries, *NXT Intelligent Bricks*, and tires. The bins' sturdy one-piece construction is rust- and corrosion-proof, so your stored items will be safe for years. The bins stack securely atop each other and store on shelves, carts, or under tables. Molded from high-density polypropylene, the bins are resistant to weak acids and alkalis. Available in three sizes, yellow only.

A. TM991138 (14-3/4" x 8-1/4" x 7")—\$13

B. TM991137 (10-7/8" x 5-1/2" x 5")—\$7

C. TM991136 (7-3/8" x 4-1/8" x 3")—\$3



Small Parts Storage Cabinets

These sturdy storage cabinets are perfect for small LEGO® parts. In fact, they are the exact cabinets used by the LEGO Education customer service department! The cabinets stack securely or can be mounted to the wall using handy pre-cut keyhole slots. The drawers of the cabinets are transparent and dividable, which makes part identification and organization a snap. The drawers also feature finger-grip pulls for easy access and rear-stop tabs to prevent the drawers from falling out and spilling the contents. The 64-drawer unit provides excellent small parts storage.

TM991186 64-Drawer Cabinet (Overall dimensions: 20" x 15" x 6".

Drawer size: 2" x 1-1/2" x 5-1/2".)—\$45

TM991185 44-Drawer Cabinet (Overall dimensions: 20" x 16" x 6".

Drawer sizes: Smaller drawers are 2" x 1-1/2" x 5-1/2".

Larger drawers are 4-3/8" x 2" x 5 1/2".)—\$45

TM991908-\$12

TM991909-\$16

TM991916—\$10

TM991912-\$14

TM991911-\$14

TM991913-\$10

TM991915-\$15

TM991910-\$10

TM991917-\$12



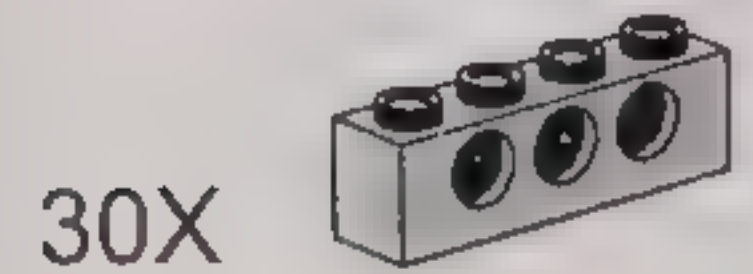
Bricks with Cross Hole

TM991948—\$10



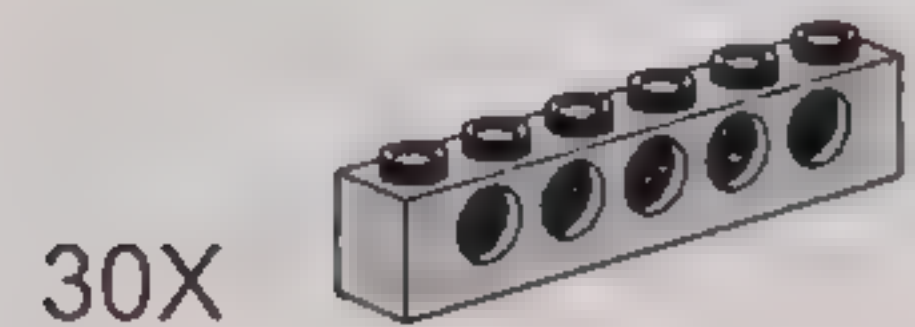
1x2 Technic Gray Bricks

TM991949—\$10



1x4 Gray Technic Bricks

TM991950—\$10



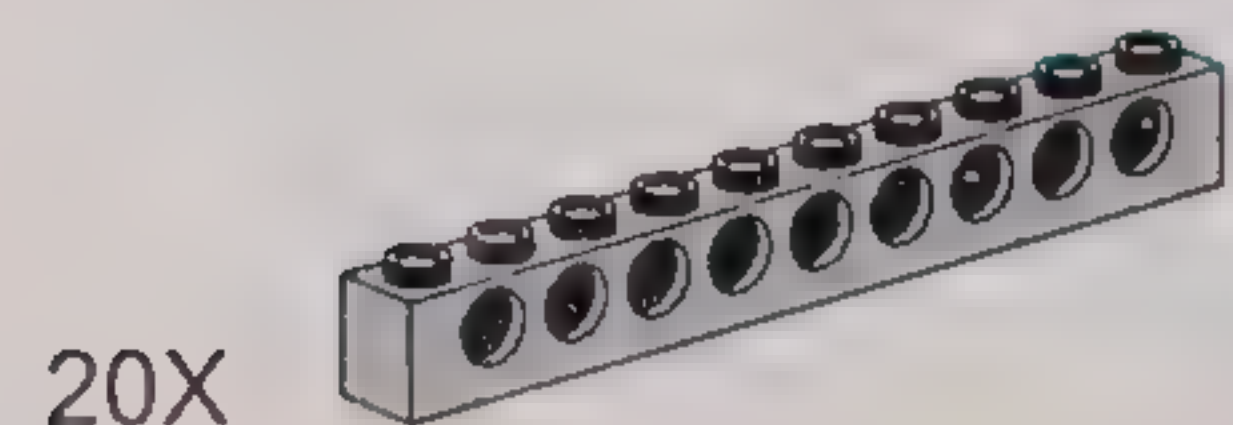
1x6 Gray Technic Bricks

TM991951—\$10



1x8 Gray Technic Bricks

TM991952—\$10



1x10 Gray Technic Bricks

TM991953—\$10



1x12 Gray Technic Bricks

TM991954—\$10



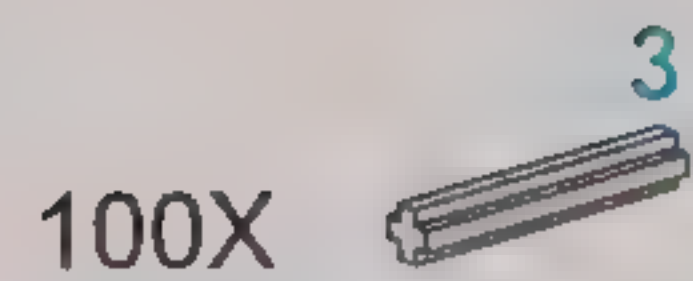
1x16 Gray Technic Bricks

TM991955—\$10



4M Axle with Stop Pack

TM991918—\$10



3M Cross Axles

TM970610—\$10



4M Cross Axles

TM970612—\$10



5M Cross Axles

TM970613—\$10



5.5 Cross Axles

TM970127—\$10



6M Cross Axles

TM970614—\$10



7M Cross Axles

TM991329—\$10



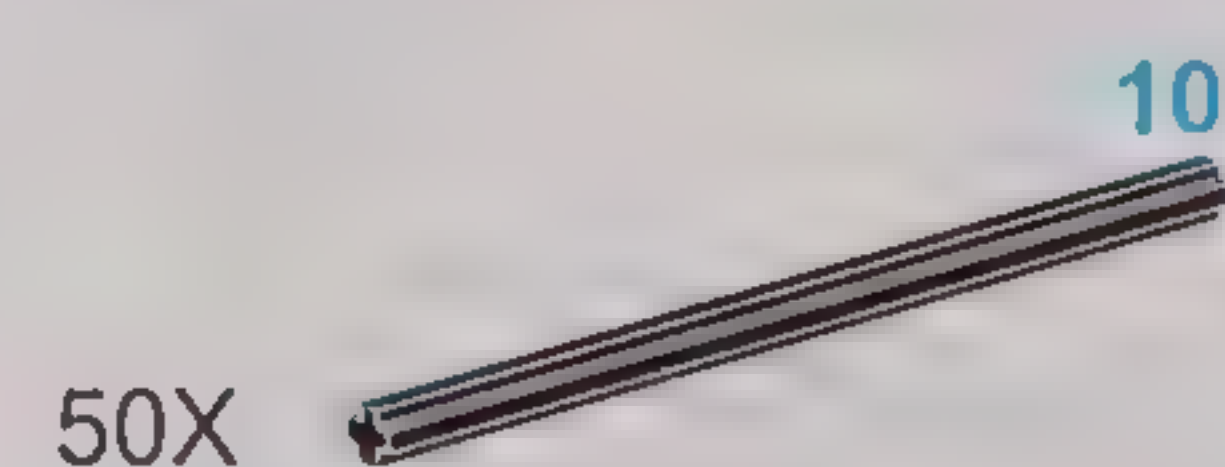
8M Cross Axles

TM970615—\$10



9M Cross Axles

TM970128—\$10



10M Cross Axles

TM970616—\$10



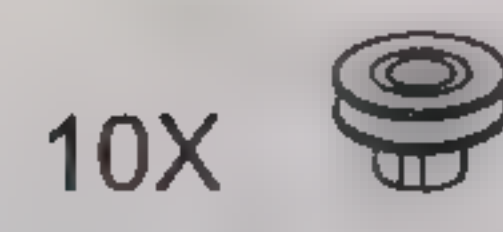
12M Cross Axles

TM970617—\$10



Axle Extenders

TM970618—\$10



Pulleys

TM970630—\$10



Cross Blocks

TM970628—\$10



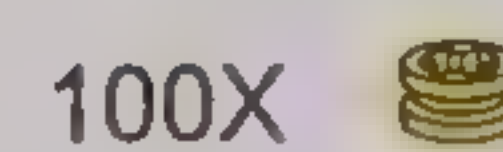
Catches with Cross Holes

TM970629—\$10



Catches

TM970619—\$10



1/2 Yellow Bushings

TM991945—\$10



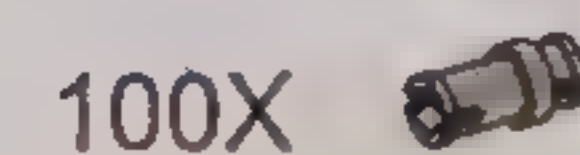
Bushings

TM970602—\$10



Connector Pegs with Knobs

TM970607—\$10



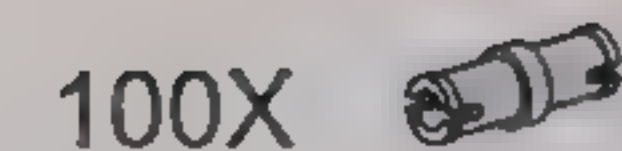
Connector Pegs 1-1/2M

TM970608—\$10



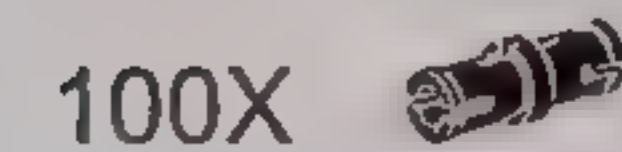
Specialty Connector Pegs

TM970130—\$10



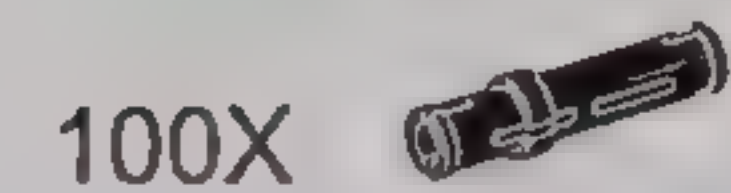
Connector Pegs

TM970603—\$10



Connector Pegs with Friction

TM970604—\$10



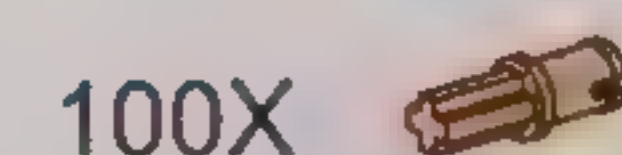
Connector Pegs with Friction 3M - Black

TM970605—\$10



Connector Pegs with Friction 3M - Blue

TM970131—\$10



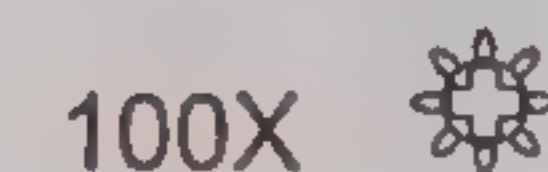
Connector Pegs with Cross Axles

TM970606—\$10



2M Friction Snap with Cross Hole

TM991337—\$10



8-Tooth Spur Gears

TM970620—\$10



12-Tooth Black Double Conical Wheels

TM991327—\$10



16-Tooth Gears

TM970622—\$10

25X



20-Tooth Double Conical Wheels

TM970623—\$10



36-Tooth Double Conical Gears

TM991946—\$10

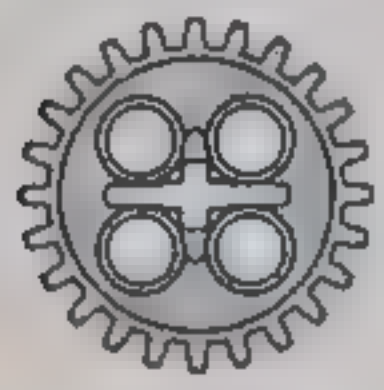
50X



24-Tooth Crown Gears

TM970624—\$10

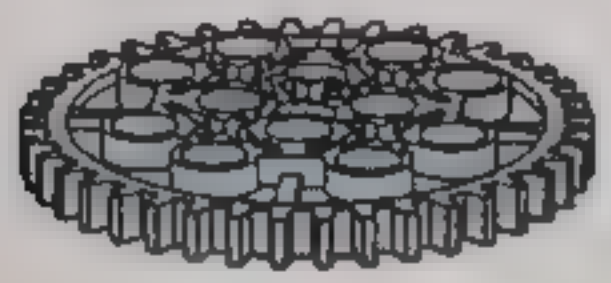
50X



24-Tooth Gears

TM970625—\$10

25X



40-Tooth Gears

TM970627—\$10

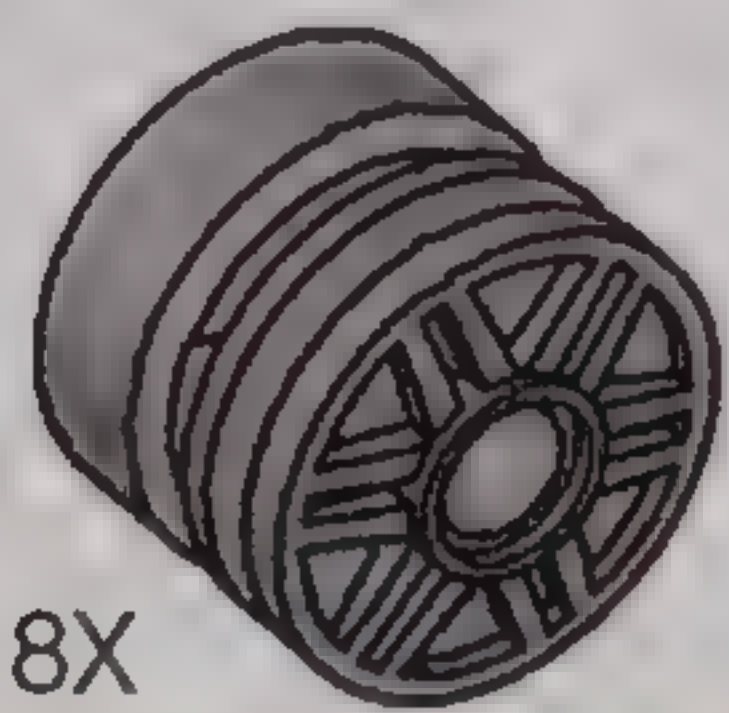


Large Tire and Hub

TM970047 (pkg of 2 tires, 2 hubs)—\$10



8X



8X

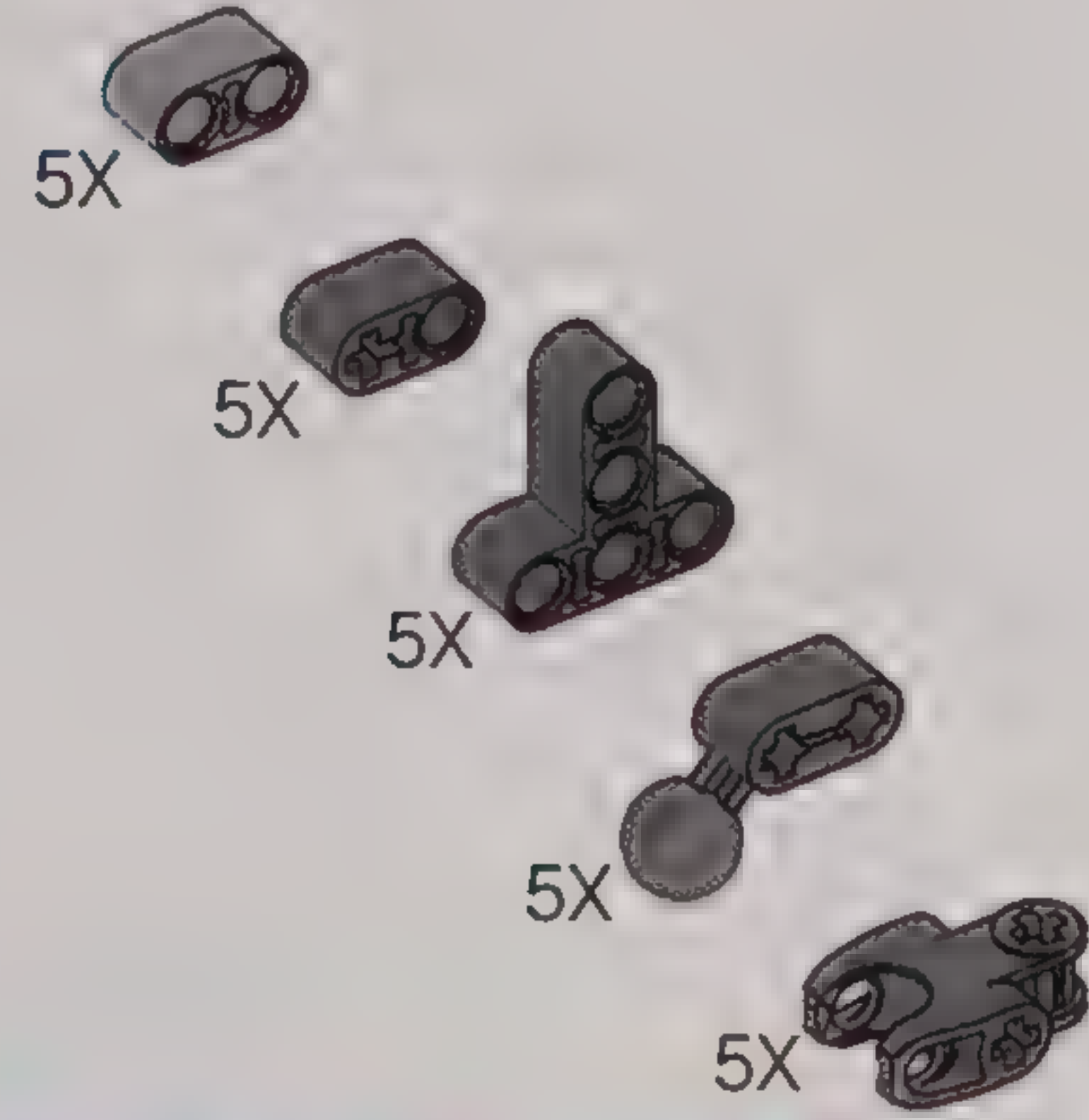
Small Wide Tire & Hub

TM991331—\$10



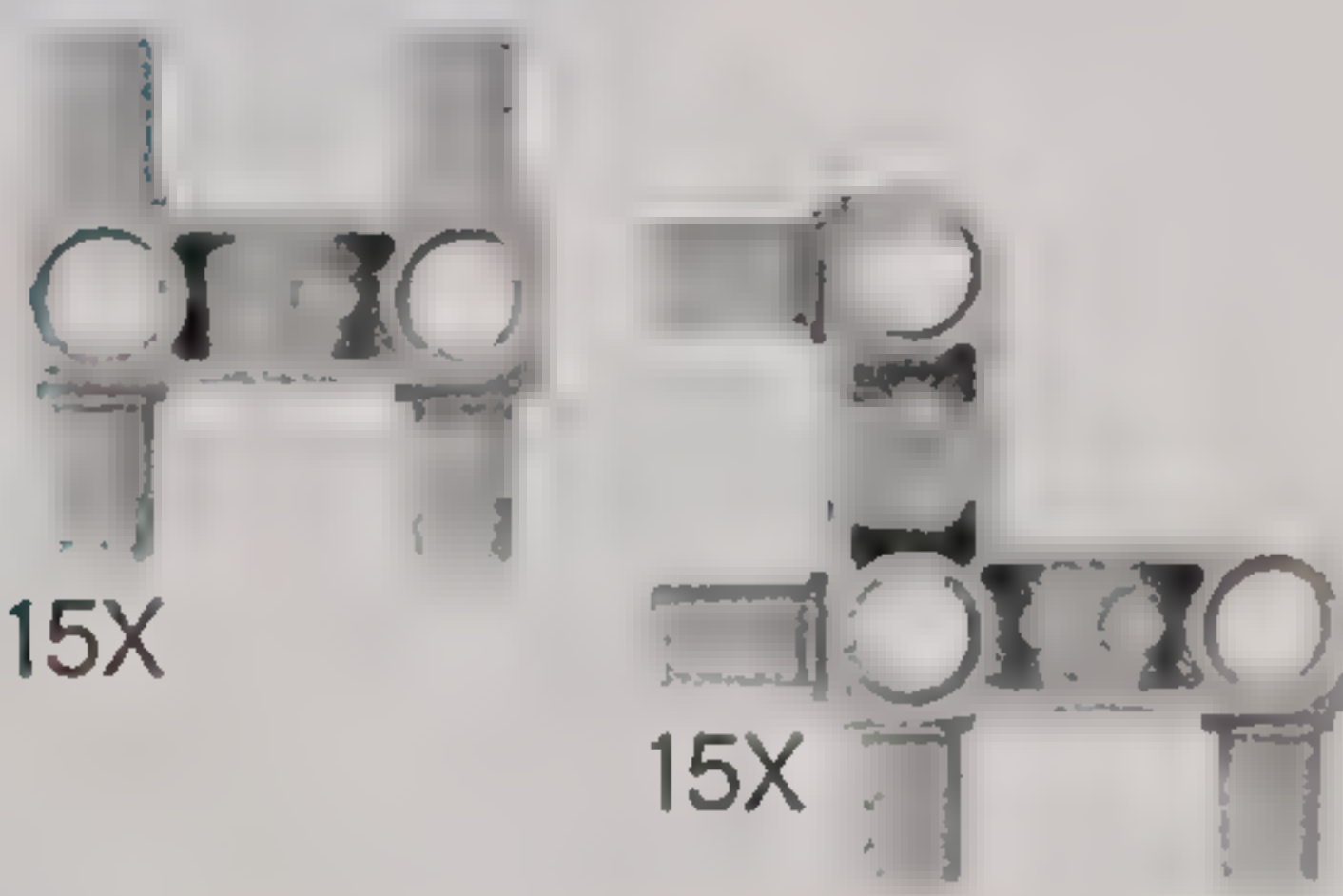
Assorted Tire Pack

TM979848—\$20



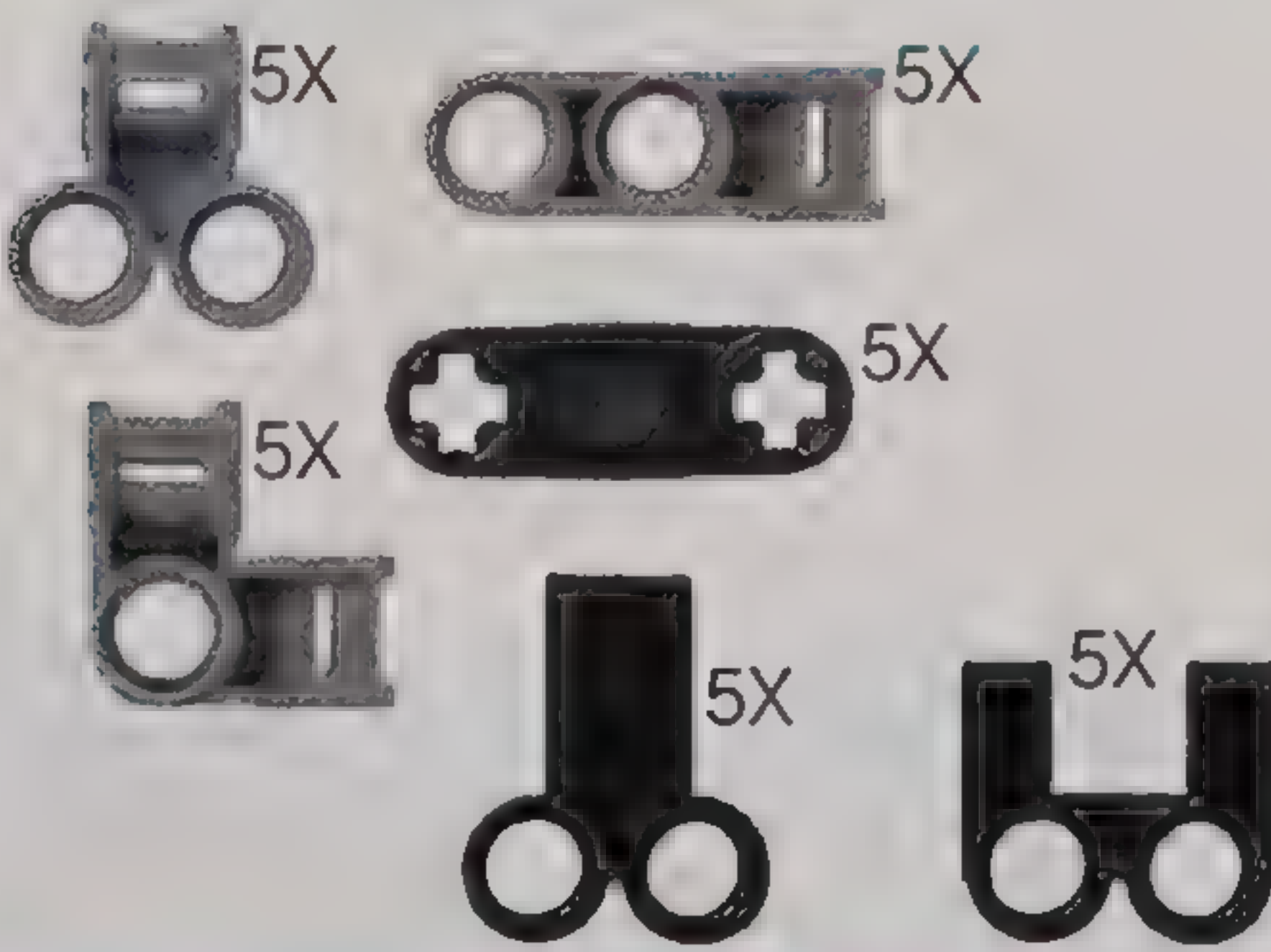
Technic Specialty Beams

TM970133—\$12



Technic Beams with Snaps

TM991404—\$12



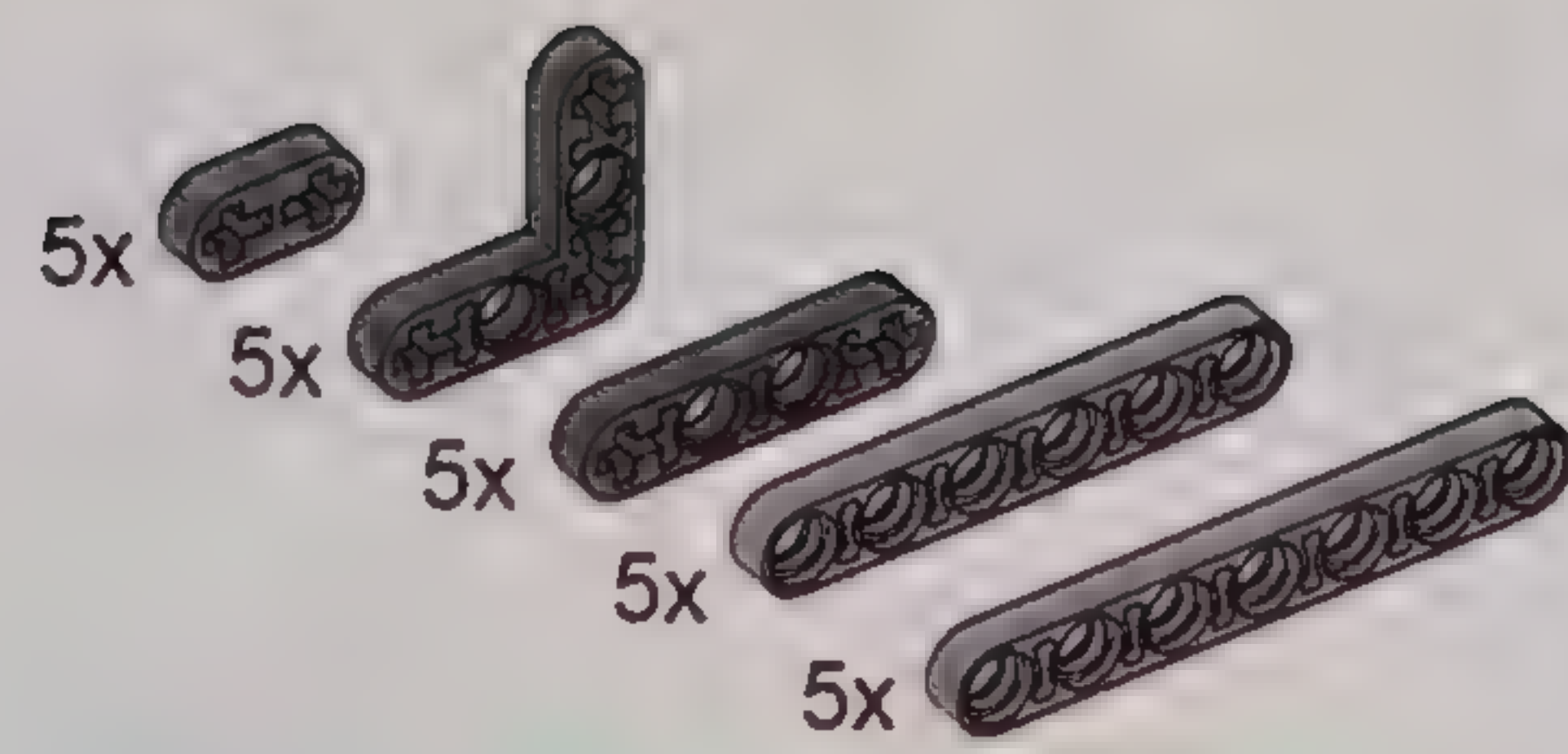
Technic Cross Blocks

TM991405—\$12



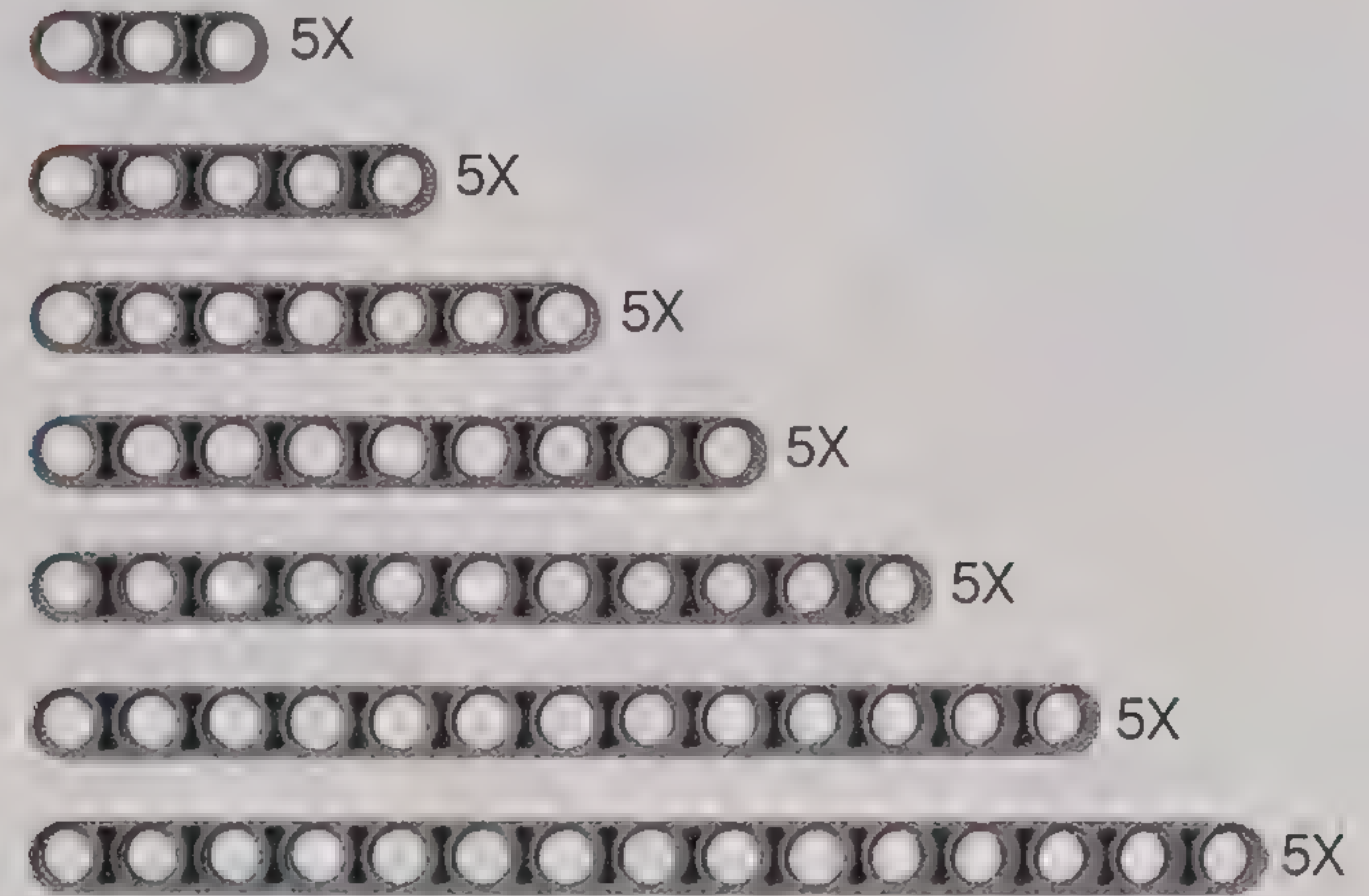
Half Beams with Curve

TM970129—\$12



Levers and Half Beams

TM970132—\$12



Studless Technic Beams

TM991402—\$12



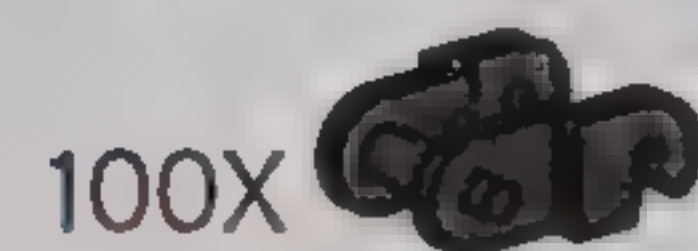
Technic Angle Beams

TM991403—\$12



Track and Sprockets Pack

TM991369—\$12



Chain Links

TM970645—\$10



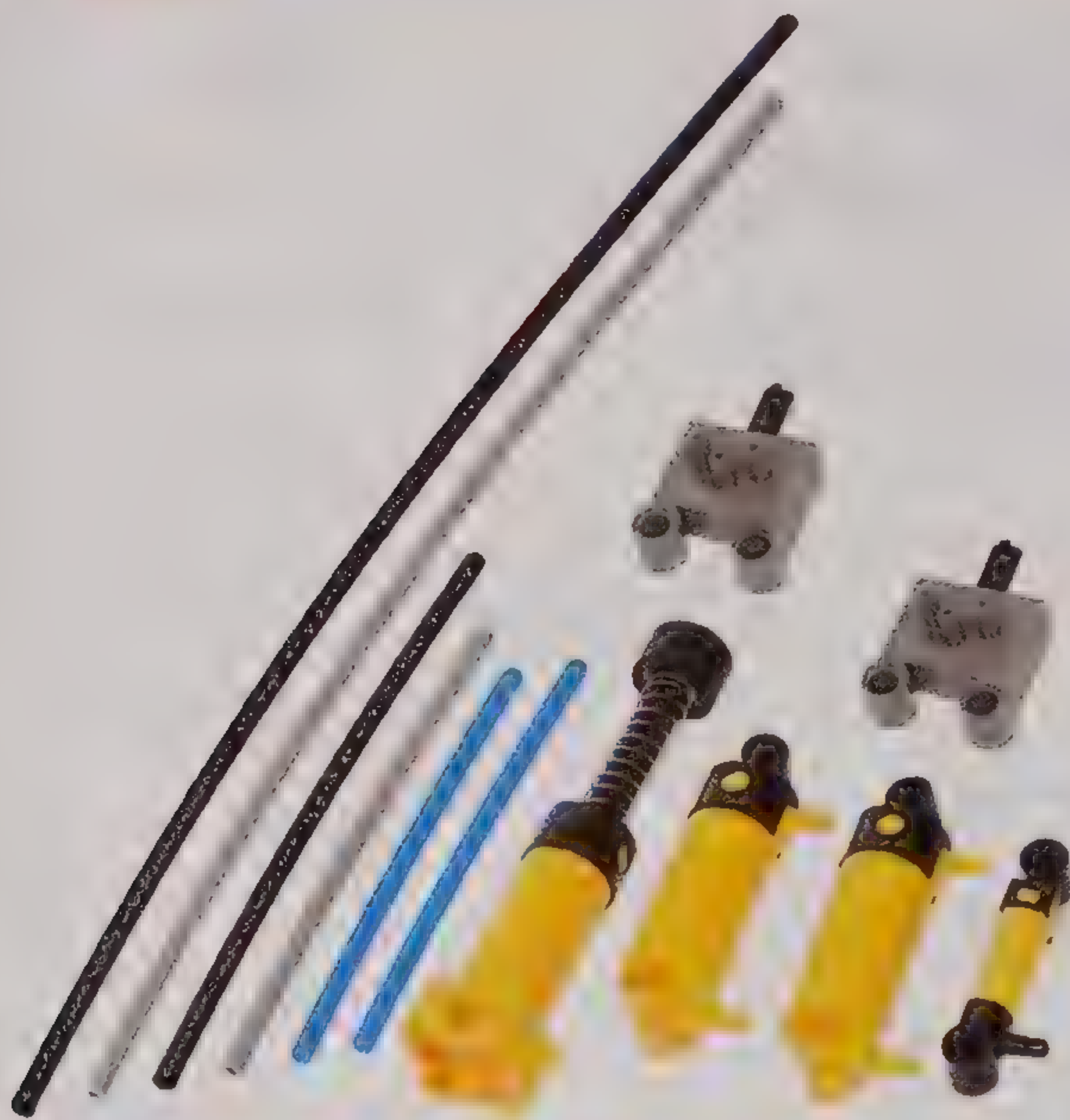
Conveyor Belt Links

TM779938—\$10



Cam Wheel

TM991333—\$10



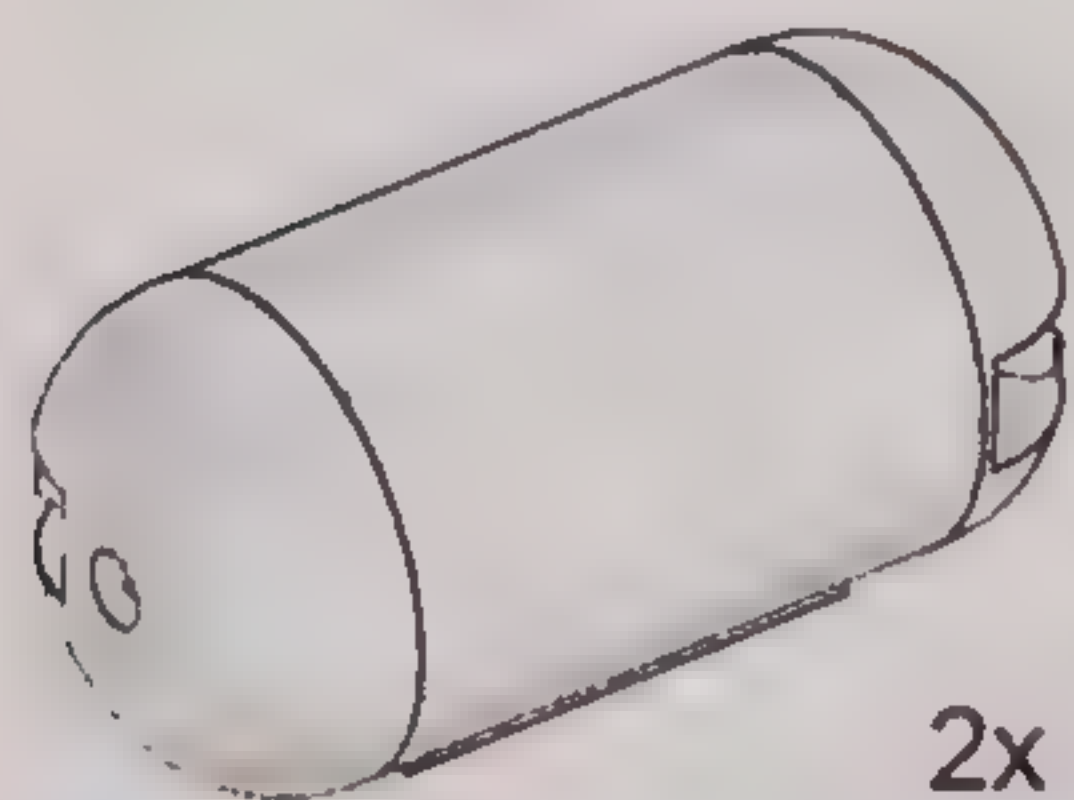
Pneumatics Parts Pack

TM770900—\$25



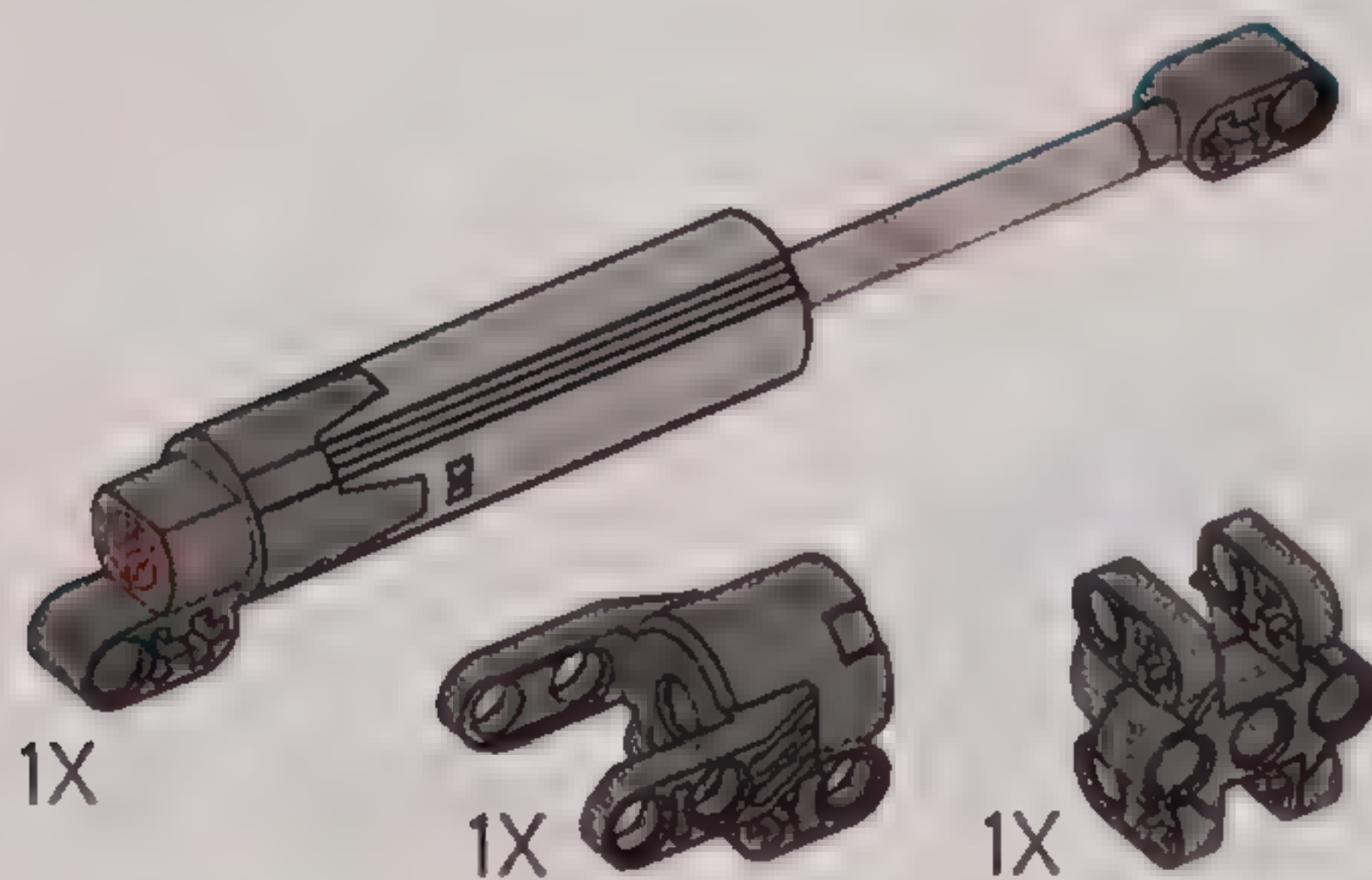
Pneumatic T-Pieces

TM970110—\$10



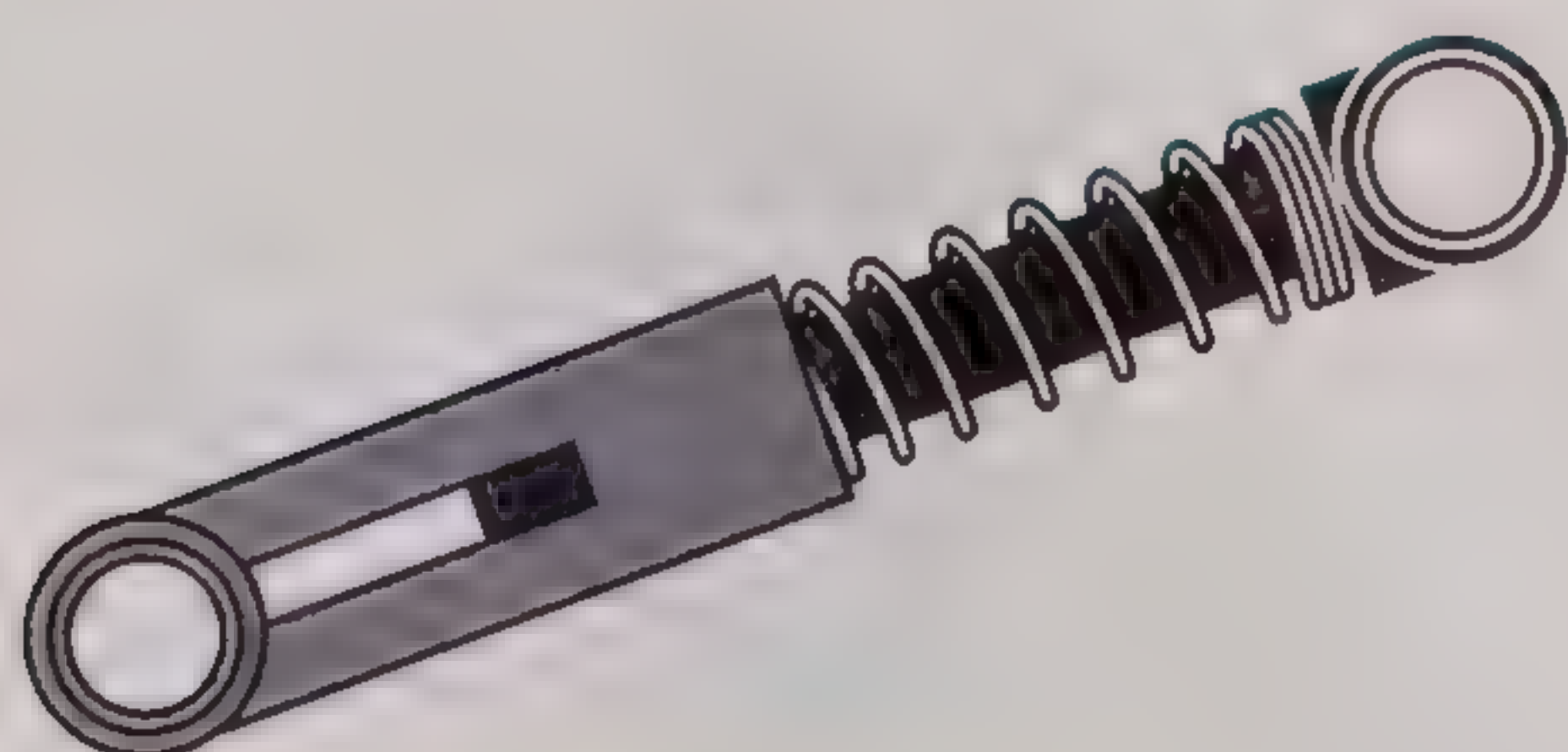
Air Storage Tanks

TM970125—\$15



Linear Actuators

TM970124—\$15

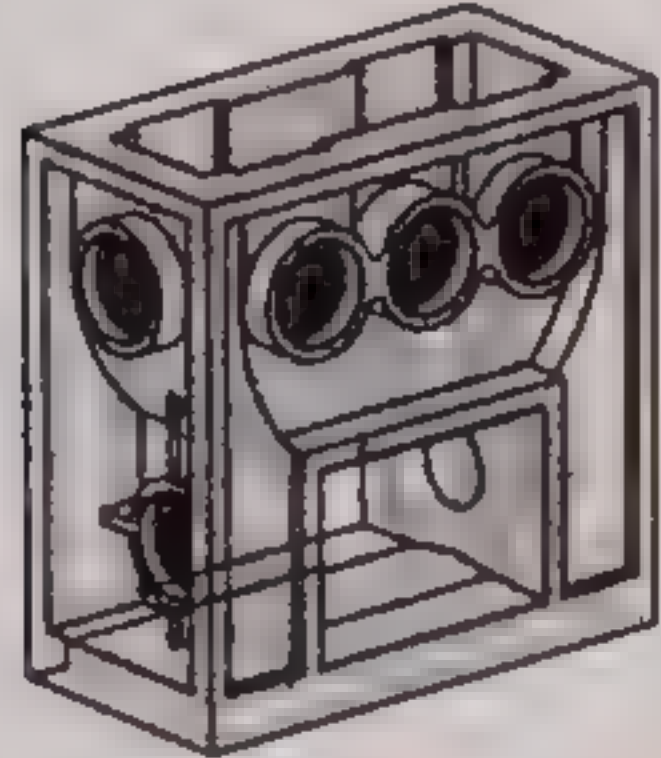
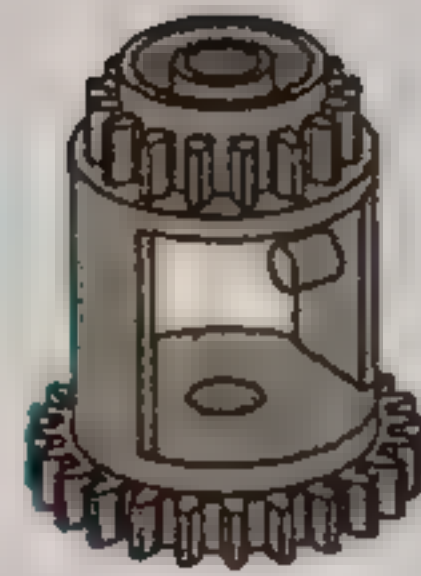


Shock Absorbers

TM991947—\$12

Gear Casings

TM970641—\$10 10X

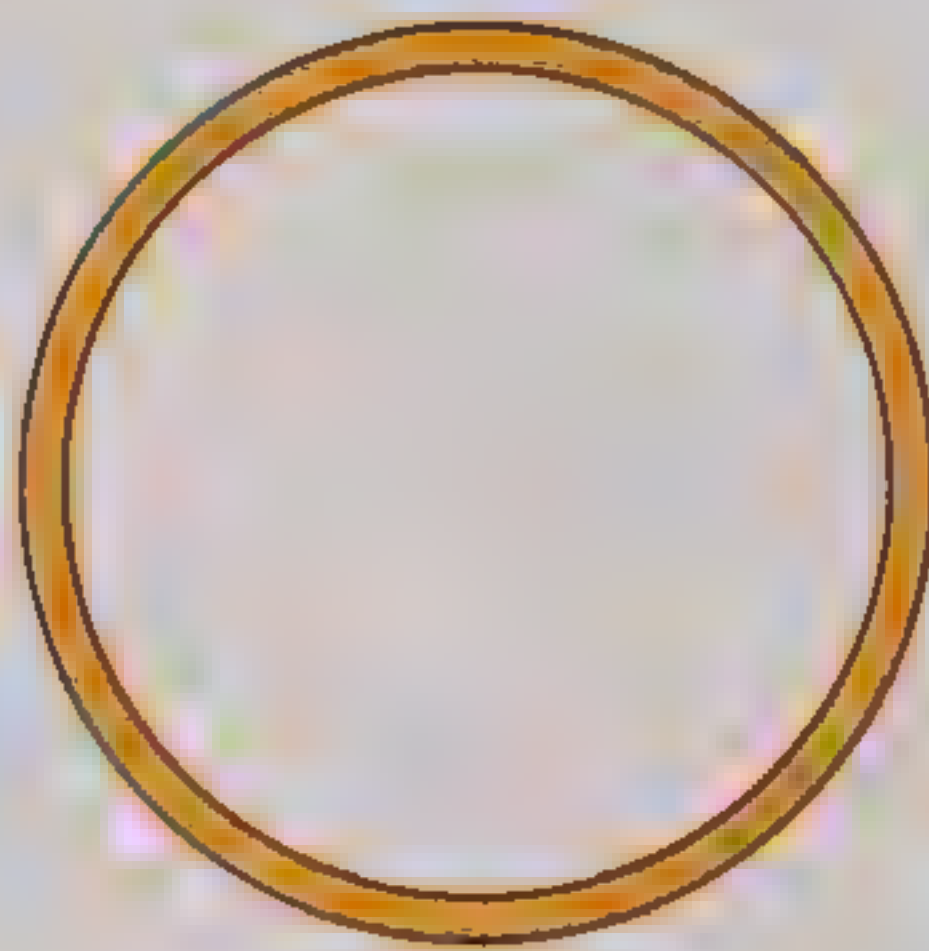


Gear Blocks

TM970646—\$10

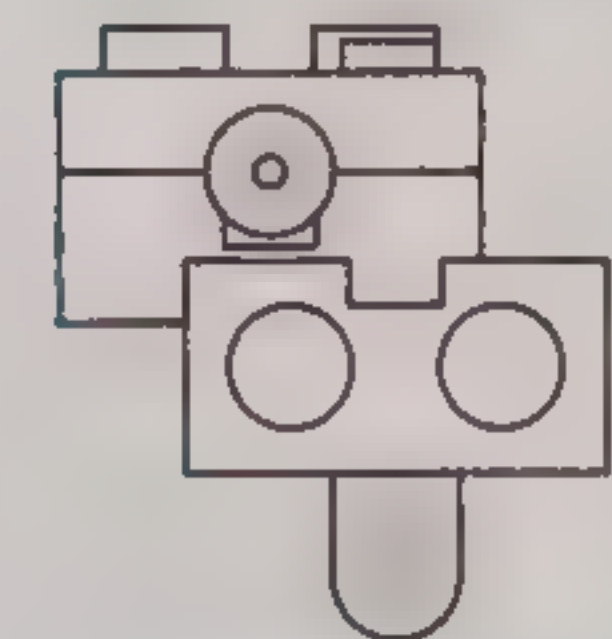
Yellow Band

TM970004—\$10



Red Band

TM970121—\$10



1 x 2 Lamp Brick 9V

TM970005 (white, 2 pcs)—\$12



2X

Turntables

TM991330—\$12



Power Functions IR Receiver

The *Power Functions IR Receiver* has two outputs that connect up to two different *Power Functions*. Requires the *Power Functions Battery Box* (778881) or the *Power Functions Rechargeable Battery Box* (778878), sold separately.

Ages 7+

TM778884—\$14.99



Power Functions IR Remote Control

The *Power Functions IR Remote Control* operates on four different channels, enabling four models to be controlled at the same time. Requires the *Power Functions IR Receiver* (778884) and three AAA (1.5V) batteries, sold separately.

Ages 7+

TM778885—\$9.49

Visit us online for more spare parts and parts packs for **WeDo™**, Simple Machines, Simple and Motorized Mechanisms, MINDSTORMS®, and TETRIX®.



LEGOeducation.us/spareparts



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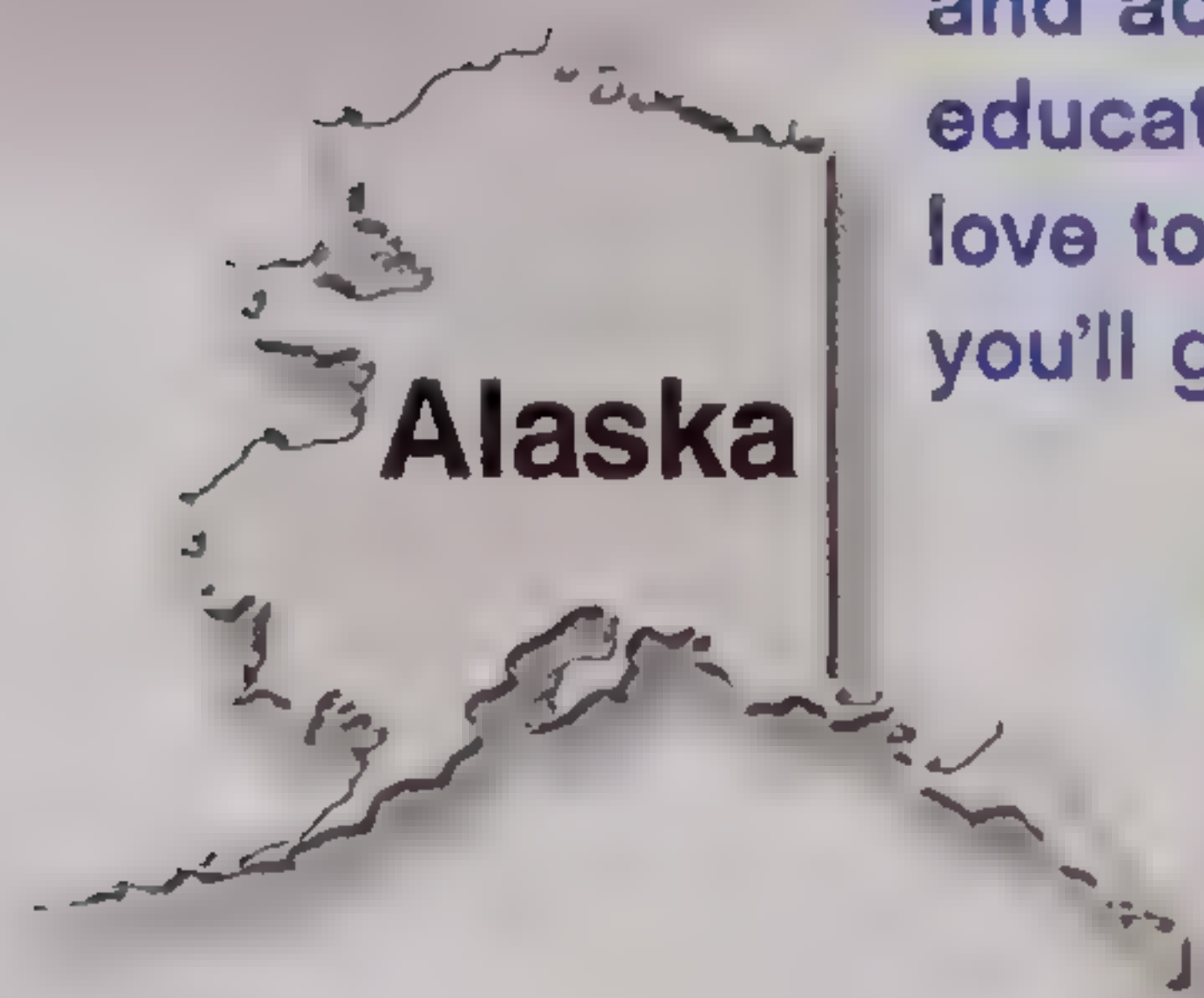
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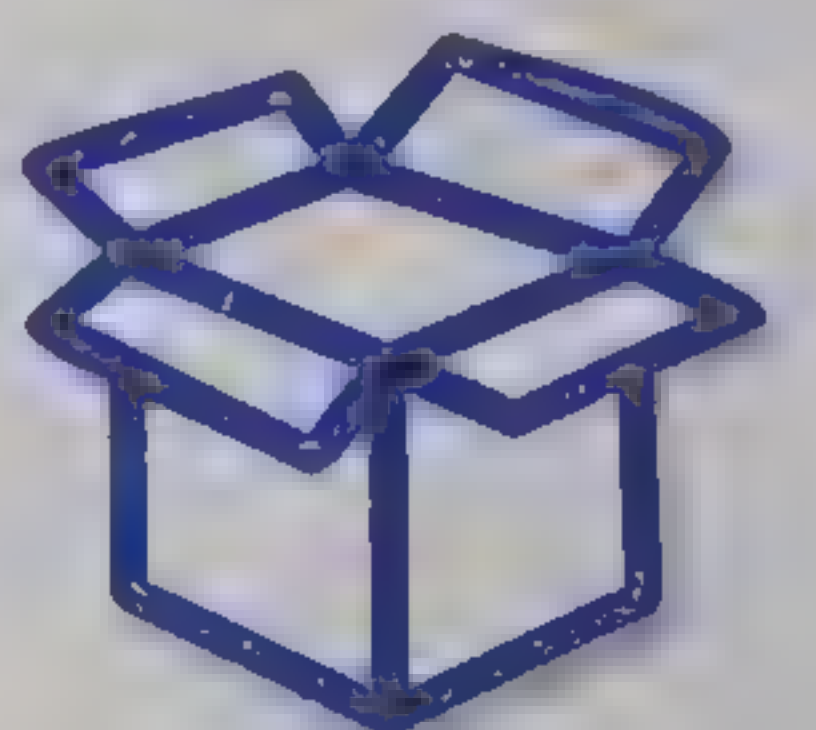
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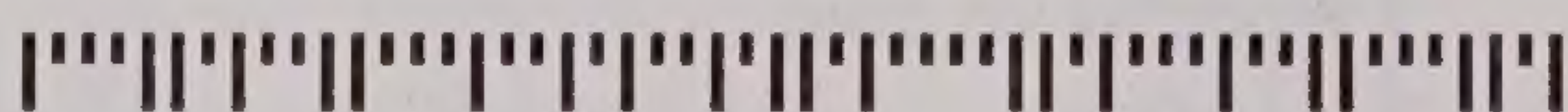
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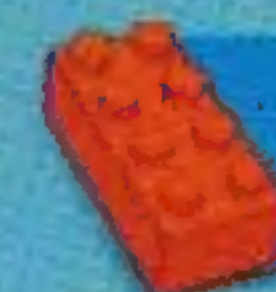
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